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FORTY-SECOND ANNUAL REPORT

OF THE

BOARD OF EDUCATION:

TOGETHER WITH THE

FORTY-SECOND ANNUAL REPORT

OF THE

SECRETARY OF THE BOARD.

1877-78.

JANUARY, 1879.

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ANNUAL REPORT

OF THE

BOARD OF EDUCATION.

ANNUAL REPORT.

In the discharge of the duties devolving upon them, the Board of Education respectfully submit to the Legislature their Forty-second Annual Report.

The normal schools, including the Normal Art School, which are the especial care of the Board, have accomplished a successful year's work under their able and efficient corps of teachers, and are all in a highly prosperous condition.

It has been in the past the constant aim of the Board to secure for these schools thoroughly competent and experienced instructors, and to furnish them with all the requisite appliances for their work. They intend to take no retrograde steps in the future; but they have felt the pressure of the times, and are awake to the importance of practising the most rigid economy in all their expenditures, and, after a thorough examination of the subject, have brought the salaries of the teachers and the other current expenses to the very lowest point consistent, in their judgment, with a due regard to the efficiency and success of the schools.

The work of the Board, however, is by no means confined to the care of these training-schools for teachers. They aim to raise the standard of education throughout the State, and in every way possible to increase the efficiency of that school-system which has ever been the pride and boast of Massachusetts.

In a time of long-continued financial depression like that through which we are passing, when the same scrupulous care which characterizes the expenditures of individuals is properly demanded of State and municipal governments, it is not strange that our common-school system should be assailed by some as unnecessarily expensive, and the higher education which it affords be characterized as a superfluous extravagance.

Those who have achieved a degree of success without this higher education are inclined to underrate its importance; and, under the dictation of those who hold these views, retrenchment is very apt to begin where it should end, — with the public schools and educational privileges. For this very reason, however, it is the paramount duty of all who realize the advantages of our present system, not only to insist upon its maintenance, but to do all in their power to bring others to a sense of its importance, and an appreciation of its blessings. It is this system that has given to Massachusetts in the past its enviable distinction among its sister States, and made it possible for even the laboring class to attain a high degree of culture. And not only has it elevated the social condition of the masses of the people, and increased their capabilities for happiness by contributing to their intellectual growth, but in a way more practical, though not more real, it has been of direct advantage to them, by inspiring them with self-reliance, and fitting them to perform labor of a higher order, and consequently more remunerative, in all the departments of industry.

Moreover, the recent establishment of such institutions as the schools of Technology, the Normal Art School, and the schools for industrial drawing, and the introduction of drawing as a required study into all the public schools, have already begun to be of great benefit, especially to the mechanical and manufacturing classes, providing them at once with opportunities for instruction and competent instructors, in departments of study of the greatest practical value to them in their life-work; and this beneficial agency will be increasingly manifest as these schools and this system of instruction work out their full results. The recent testimony of a distinguished Colorado gentleman, to the superiority of the graduates of the Massachusetts schools of technology in practical mining, is one of many illustrations which might be given, showing the practical value of the Massachusetts system of education in its bearing upon industrial pursuits.

The Board, however, while believing that our school-system has in the past been fraught with the greatest blessings for all classes of the community, have felt that great improvement was still possible, and have endeavored, by all means in their power, to render it more effective. The labors of the secretary and the agents of the Board have accomplished much in this direction. The teachers' institutes have increased the enthusiasm of the teachers in their work, as well as imparted valuable instruction; and the personal visitation of schools has tended to equalize the grade of instruction throughout the State. The amount of practical educational work which has been done by these officers in the year past, both in the schools and in private gatherings of teachers and school committees, has been greater than in any previous year; and the results have been proportionally satisfactory.

The Board would especially emphasize the need of progress in elementary instruction. There has been in the past too much slavish dependence upon text-books, and too much merely routine instruction on the part of teachers, and too much meaningless memorizing on the part of pupils in our lower schools. The course of study introduced this year into the Boston public schools is a new departure in this respect, and one which promises good results. It is possible, indeed, to go too far in this direction, and to make use of oral instruction to the undue exclusion of text-books of standard value and real utility. Yet it is none the less true, that, in elementary instruction especially, more can be accomplished by teaching than by hearing recitations; and that the personal power of the teacher should be brought to bear upon the pupil. One thing, however, is certain, — the more prominent the teacher becomes in our educational system, the better qualified must he be for his work, and the greater need will there be for special preparation for the business of teaching. An advance in the grade of instruction can only be effected by an advance in the grade of instructors.

The importance of the public schools as an agency for teaching morals and the duties of citizenship, is a point often ignored or neglected. No union of Church and State is to be tolerated in our country, and the teachers should be especially careful that their teaching is free from sectarian bias; yet if our schools are to be the safeguards of our republic, as we fondly trust, our teachers must feel that upon them rests the responsibility of so training the youth committed to their care, that they shall go forth from the schools imbued with the principles of sound morality, trained to self-government, willing to obey the laws of the land, and able to discharge the important duties of citizenship that will soon devolve upon them.

The Board are still impressed with the importance of the more thorough and general supervision of the schools of the State which they have so frequently recommended to the Legislature. Were they at liberty to expend a larger sum of money in the employment of agents, the work might to some extent be accomplished ; yet special legislation, and provision for the appointment of district supervisors, will probably be requisite to give to all the schools of the State that supervision which will accomplish the best results.

During the present year the attention of the Board has been especially directed to the subject of truancy. The law requires the attendance of all children between the ages of 8 and 14, but requires, that, in the returns made to the secretary, all between the ages of 5 and 15 shall be included. On examining the returns of last year, it was discovered that only 73 per cent of the whole number returned were actually in attendance in the schools. A portion of the absentees would, of course, be included between the ages of 5 and 8 ; yet even with this allowance, the matter of truancy was felt to be one requiring the serious attention of the Board. It was therefore voted, Jan. 3, 1878, that the secretary ascertain how many towns have failed to appoint truant-officers. The inquiry revealed the fact that only 157 towns have appointed such officers, while 185 towns are without them. In view of this neglect, and with the purpose of calling special attention to this subject, the Board voted to publish, and send to each town, a copy of an approved form of by-laws for truant-officers.

While believing fully in the principle of compulsory education, the Board recognize the fact that legislative enactment is but the beginning of the work, and may be rendered almost barren of results by the failure on the part of the several towns to provide for the proper enforcement of the law. It is to be hoped that the special efforts of the Board will effect a marked improvement in this particular in the year to come.

It should, however, in justice be said, that the percentage of attendance would be very decidedly raised were account taken of the pupils in private and parochial schools.

Some method ought certainly to be adopted by which complete and accurate returns can be secured from these schools, that the annual statistics of the State may be definite and comprehensive. Only from such full and reliable statistics can data be obtained for determining how generally the statute law is enforced, and how nearly education is practically, as well as theoretically, universal in Massachusetts.

The Board cannot refrain from calling the attention of the Legislature once more to the inadequacy of the school-fund to accomplish the purposes for which it was intended. This fund is the result, not of direct taxation, but of the sale of public lands in Maine and on the Back Bay, and of the appropriation of a part of the State's claim upon the United States for military service. Since 1855 one-half of the annual income of this fund has been devoted to the support of the common schools, under provisions from time to time adopted by the Legislature; and the remaining half has been used to defray "all other educational expenses."

These "other educational expenses" have steadily increased with the enlargement of the work of the Board, and especially with the multiplication of normal schools established by the Legislature to meet the increasing demands for normal instruction.

The fund, on the contrary, has not increased for many years; and there is no provision for its further increase in time to come. Indeed, owing to occasional encroachments upon the principal to cover deficiencies, the amount of the school-fund is actually less to-day than it was fourteen years ago. The increased expenses must, therefore, be met by half the income of a decreased fund.

As a natural consequence, the necessary annual apportionments exceed the moiety of income at the disposal of the Board for general purposes of education.

This state of things not only cramps them in their work, and well nigh prevents real progress, but also renders necessary an annual appropriation to meet an annual deficiency.

Such a condition of dependence upon special legislative appropriations places in constant jeopardy the important interests intrusted to the care of the Board.

Nor is the half of the annual income devoted to the support of common schools sufficient to accomplish the desired object, — the equalization throughout the State of the opportunities for popular education, and of the burdens of taxation for educational purposes.

Divided among so many towns and cities, the amount assigned to each is but a scanty pittance, serving indeed to assist, but falling far short of the attainment of the desired end.

Some measures ought certainly to be taken to remedy these evils, and to perfect the work which can only be in part accomplished by the income of the present school-fund.

The Legislature of 1875 seemed to appreciate this fact, and, in a resolve approved May 19, 1875, requested the Board of Education to include in their next annual report their opinions and recommendations of the policy which in their judgment should be adopted with regard to the increase or limitation of the school-fund, and the reasons in favor of such policy. In compliance with this request, the Board, in their next report gave a brief history of the school-fund, and, after showing its inadequacy to meet the demands upon it, recommended that either the fund be increased, or a tax of a fraction of a mill be levied upon the real and personal property in the State liable to taxation, the proceeds of the same to be applied to the advancement of popular education; expressing, at the same time, their decided preference for the latter course.

As, however, no relief has yet been provided, and the present embarrassments and difficulties are likely to increase rather than diminish, the Board feel constrained to repeat their former recommendation.

No one, probably, would oppose the increase of the school-fund, if some feasible plan for such increase could be devised. In the opinion of the Board, no valid objection can be raised against the levying of the tax proposed. It certainly cannot be regarded as unjust that the cities and towns so greatly benefited by the normal schools, the agents of the Board of Education, and the teachers' institutes, should bear a part in defraying the necessary expenses connected with them.

Nor can any objection justly be made to the application of a part of the money thus raised to the support of the common schools. So closely united are the interests of all sections of our Commonwealth, and so common is the transfer of citizenship from town to town, that the whole State is benefited by the increase of educational privileges in any part, and an enlightened self-interest would lead the strong thus to help the weak, the rich to aid the poor.

The levying of such a tax would not materially increase the aggregate of taxation for educational purposes, but would tend to equalize the burdens of taxation which now rest so heavily upon the smaller towns and villages, and to insure a higher order of excellence to the public schools throughout the State. Indeed, the interests of the whole population *demand* that the schools throughout the State be maintained as nearly as possible at a uniform standard of excellence; and since the State requires the education of all its children, an approximately equal distribution of the burden of taxation is certainly most in accordance with justice.

The usual accompanying documents are herewith transmitted. The Board would call special attention to the report of the secretary, which presents more in detail some of the topics briefly discussed in this report, together with much interesting and valuable information in reference to the educational interests of the Commonwealth.

ALEXANDER H. RICE, *ex officio.*
HORATIO G. KNIGHT, *ex officio.*
WILLIAM RICE.
CONSTANTINE C. ESTY.
CHRISTOPHER C. HUSSEY.
ELIJAH B. STODDARD.
CHARLES B. RICE.
ALONZO A. MINER.
GARDINER G. HUBBARD.

REPORTS OF VISITORS

OF THE

NORMAL SCHOOLS.

BRIDGEWATER.

The visitors of this school are pleased to report that all its affairs are in a highly satisfactory condition. The teachers, having been long in their places, are able to add experience to their natural ability and to their knowledge. Teaching with the same spirit, and in accordance with the same method, they have become a united, efficient body of laborers, each doing a work in his department that contributes its full measure towards attaining the one end for which the school was established.

Observation suggests what statistics confirm, that candidates presenting themselves for admission to the school come prepared each succeeding year for a higher standard of admission, and with an increasing appreciation of the work to be done while they are members of the school, as well as of that which they are to do when they come themselves to be teachers.

Nearly all who graduate from the school become teachers in the Commonwealth ; and the percentage of failures in teaching is smaller, it is believed, than in almost any other department of either mental or manual labor. These facts, which are derived from the record, furnish all the evidence needed in support of the claim that the school is doing a good and satisfactory work for the State. We believe that this, with the other normal schools, is doing much towards supplying the common schools with trained teachers, and towards introducing more natural methods of teaching, and that it is doing a great work in laying the foundations of those institutions which can rest securely only on intelligence and virtue.

The statistics for the school year ending July 2, 1878, are as follows : —

Terms Began Sept. 4, 1877, and Feb. 12, 1878.	First Term.			Second Term.			For the Year.		
	Gentlemen.	Ladies.	Total.	Gentlemen.	Ladies.	Total.	Gentlemen.	Ladies.	Total.
Members	59	99	158	52	100	152	65	123	188
Entering classes	13	38	51	6	27	33	19	65	84
Graduates	5	10	15	7	19	26	12	29	41
Received State aid	14	13	27	16	13	29	19	18	37

The whole number of admissions to the school has been 2,499: gentlemen, 859; ladies, 1,640.

The whole number of graduates has been 1,531: gentlemen, 534; ladies, 997. Sixty-one per cent of the whole number admitted have graduated.

Of the number belonging to the school for the year, Plymouth County sent 58; Middlesex, 30; Bristol, 23; Norfolk, 23; Barnstable, 10; Suffolk, 6; Worcester, 5; Essex, 4; Franklin, 1; Nantucket, 1; the State of Maine, 12; New Hampshire, 8; Connecticut, 3; Vermont, Pennsylvania, California, each 1. Totals, Massachusetts, 162; other States, 26.

The average age of those admitted during the year is 19 years, 2 months; of the gentlemen, 19 years, 8 months; of the ladies, 18 years, 7 months.

Occupations of parents: Mechanics, 19; farmers, 18; traders, 9; manufacturers, 5; merchants, 6; laborers, 5; sea-captains, 3; sailors, 3; teachers, 2; undertakers, 2; custom-house officers, naval officers, physicians, superintendents of mines, each 1; unknown, 4.

Of the 84 candidates received, there came from high schools 38; academies and private schools, 20; grammar schools, 14; district schools, 9; normal schools, 2; college, 1.

Of the graduates for the year, 7 were from the four-years' course, — 3 gentlemen and 4 ladies. Nearly all the graduates of the year have engaged in teaching, and in Massachusetts.

The number of pupils pursuing the longer course of study the last term of the year, was 48, — nearly one-third of the school.

The number admitted at the beginning of the present term, Sept. 3, 1878, was 65; and the number in attendance is 172, a larger number than in any previous term.

The two-years' course of studies includes twenty-five different branches. Each study has to be considered from the standpoint of the teacher, and the larger part of these studies must be considered in two divisions; namely, an elementary course, and a scientific course. In each study the subject must be carefully analyzed into its main divisions, and these into all their subdivisions; and the pupils must be taught what they are to teach in this subject, in what order these topics are to be taught, and how they are to be taught. The number of weeks for doing this work is seventy-six. The time is too short for the proper consideration of so large a number of subjects. All these subjects are necessary to prepare the normal graduate for the demands made upon him in the primary and grammar grades of the public schools.

The four-years' course of study includes thirty-two different branches. In many of these the course has to be much more extended than in the same study as taken in the two-years' course, and the subjects must be treated in the same manner. The teacher in the higher grades of the public schools is required by the laws of the State to be competent to give instruction in the studies of this course; and the proper discussion of them requires the full four years.

This course exerts a very great and important influence upon the school in elevating the tone of feeling and the standard of scholarship. The majority of teachers have not had opportunities for such generous culture as teachers ought to have. At the end of the two-years' course the student has learned his deficiencies, and has reached the state of mind which enables him to improve rapidly by further study. If now he studies another two years, he acquires a degree of culture, a familiarity with principles and methods, a skill in teaching, and a love for his profession, which make him far more valuable as a practical teacher. Pupils may also take an intermediate course, which includes the two-years' course and one or two terms' work in addition to this course.

The benefits of a four-years' course of study in one school are much greater than those derived from a two-years' course in one normal school, followed by a two-years' advanced course in another normal school. This fact has been apparent in the case of graduates of other State normal schools, who have taken the two-years' advanced course in this school.

The constant and growing demand for thoroughly trained teachers in the public schools, in all grades, makes this longer course of preparation a necessity. The normal school must meet this demand of the public by supplying the means of culture to those desiring to make teaching their profession, or fail to accomplish the object for which it was established.

The Pupils and their Work.

The pupils, as will be seen by the statistics, come from different sections of this State, from other States, and from many different schools. Some come fresh from their school studies, others from teaching, and some from other employments. They come with a purpose to make good use of their opportunities. Many of them are dependent on their own efforts. There is much diversity in age, ability, and attainments. Some know how to think, and how to express thought, and are eager to make the best possible preparation for teaching: others, who come from schools considered very good, have not learned to observe or to think closely. Much time has to be spent in correcting wrong ideas, in uprooting bad habits, and in learning how to study, before the work of the school can be well done.

The recent graduates generally do a better quality of work in their first efforts than was done by those of former years. Too much is expected of young teachers. Those who take charge of a school for the first time need, and ought to have, the guidance and support of intelligent supervision. Many are left without any help or encouragement, to contend alone with the many difficulties which arise.

Pupils are admitted to the two-years' course at the beginning of each term, and to the four-years' course at the beginning of each school year; hence there are four classes in each of these courses.

The average number of pupils to each teacher is 20. The average number of recitations a week to each teacher is 23. Written exercises in most of the studies are given once a month.

Each teacher is fully occupied. The work is distributed so as to give each teacher, so far as practicable, but few subjects to teach, so that he may bring to his work the most thorough knowledge of the subject, and the best quality of teaching.

The Boarding Hall.

The hall, which has rooms for 140 boarders besides the rooms for the family of the principal and the help, has been fully occupied. The building and the furniture have been kept in good condition without any appropriation from the State since the enlargement of the hall in 1873. Nearly all the rooms were repainted during the last vacation. There has been no increase in the price of board since the hall was opened in 1869. The price paid by the occupants supplies the board, and pays the expense of keeping the building and furniture in good repair. The habits of regularity and the comfortable home life in the hall contribute very largely to the physical and mental vigor of the school.

The Visitors of the School.

The Chairman of the Visitors and the Secretary of the Board have been present at the beginning of each term, to attend to the admission of candidates, and at the close of each term to superintend the graduating exercises of each class. The Visitors, including the Secretary, have visited the class-rooms at different times during the term, and carefully observed the work of both teachers and pupils, and have made addresses to the school on educational topics.

The Wants of the Schools.

New blackboards are a necessity in all the class-rooms. The school building has been twice enlarged, first in 1861 and again in 1871. The work had to be done hurriedly in the summer vacation of the school : as a result of this haste, the blackboards were poorly made, and are now in bad condition. It will be necessary to remove the plastering, and strengthen the walls, to secure a good foundation for a slate surface.

The floors in the original part of the building, which were laid in 1846, are rough, much worn, and have wide cracks. They need to be relaid. It is very desirable that these repairs should be made at the same time. It will be a saving in trouble and expense to do them together. The blackboards must, and the floors ought to be soon repaired. A sum not exceeding $1,000 will meet the expense of these repairs.

C. C. HUSSEY, *Visitor.*

SALEM.

THIS school, like a well-built and smoothly-running machine, requires no very special notice to be taken of it; since it is always known to be holding on evenly and effectively in its work. There has been no change of importance in its management or in its methods. The number of pupils continues to be large. Nearly all of them become teachers in our public schools soon after their graduation. We do not claim in their behalf that they are better teachers, always, than others may be who have had no such preparation; but we do affirm, that through the style of work they do, the State has its full return for the care bestowed upon them. It is to be considered that the good effects of their training are not confined wholly to themselves, and to the schools directly under their charge. These teachers are thrown in along with others, who will not be inferior to them if they can help it; and there is thus brought about some raising of the general standard of ability and skill. It is one of the chief uses of these normal schools, that they distribute benefits in this way much more widely than might be indicated by the numbers only of the teachers they send forth.

The statistics of the school for the year ending July 1, 1878, are as follows: —

1. The whole number of pupils belonging to the school during the year was 309.

Of this number, Essex County sent 192; Middlesex, 61; Suffolk, 13; Franklin, 3; Bristol, 2; Barnstable, 1; Berkshire, 1; and Norfolk, 1. The State of Maine sent 13; New Hampshire, 15; Vermont, 3; Illinois, 1; Iowa, 1; and Wisconsin, 1. Ontario sent 1.

The number present during the term which closed Jan. 15, 1878, was 258; during the term which closed June 25, 1878, 238. The whole number of pupils in the school from its opening in September, 1854, to June 25, 1878, is 2,218.

2. The number graduated Jan. 15, 1878, from the regular

course, was 18; the number graduated June 25, 1878, from the regular course, was 40, and from the advanced course, 3.

The whole number of graduates of the school (46 classes) is 1,048.

3. The number that entered the school Aug. 28, 1877, was 74; the number that entered Feb. 5, 1878, was 44.

4. The average age of the class admitted Aug. 28, 1877, was 18.07 years; of the class admitted Feb. 5, 1878, it was 17.4 years.

5. The fathers of the pupils admitted during the year, are by occupation, as follows: —

Mechanics	45
Farmers	19
Traders	14
Agents and clerks	7
Shoe-manufacturers	6
Miscellaneous	27

6. The number that received State aid during the term ending Jan. 15, 1878, was 26; during the term ending June 25, 1878, it was 26. The whole number of different pupils that received State aid during the year was 32.

7. The number that received aid from the Bowditch Fund during the first term was 32; during the last term, 24. The number of different pupils thus aided during the year was 46.

8. Of the class admitted in August, 1877, 13 had taught school; of the class admitted in February, 1878, 7 had taught; total, 20.

9. The number of pupils connected with each of the several classes during the first term of the year was as follows: Special, 9; advanced class, 16; class A (senior) 26; class B, 67; class C, 61; Class D, 79. Number during the second term: Special, 3; advanced class, 16; class A, 53; class B, 43; class C, 63; class D, 60.

10. Of the 118 pupils admitted during the year, Salem sent 20; Lynn, 18; Lowell, 9; Gloucester, 5; Malden, Manchester, North Andover, Peabody, and Somerville, 3 each; Beverly, Boston, Chelsea, Danvers, Haverhill, Ipswich, Melrose, North Reading, Stoneham, and Wakefield, 2 each; Cambridge, Essex, Everett, Greenfield, Lawrence, Marblehead, Merrimac, Middleton, New Bedford, Orange, Salisbury, Saugus, Swampscott, and

Woburn, 1 each. The State of Maine sent 6; New Hampshire, 7; Vermont, 1; Illinois, 1; and Iowa, 1. Ontario sent 1.

11. During the year 17 books were added to the general library, — 7 by gift and 10 by purchase. The text-book library was increased by the purchase of 277 books.

A change in the plan of drainage for the building was made necessary by the failure, early in the year, of the original appointments to that end: and, an appropriation having been granted by the Legislature, a connection was made with the sewers of the city of Salem, which were extended somewhat for that purpose; and the work was done in a thorough manner for about three hundred dollars, or one-half the sum allowed by the appropriation.

Changes made by the city of Salem upon its adjoining property may make desirable certain corresponding changes of no great extent, — the fencing of the school-yard. The city of Salem has two schoolhouses near at hand; and there has been a suggestion, by the mayor of the city, of a plan for the heating of these buildings in connection with ours by steam. It may perhaps be possible to enter into an arrangement of this sort that will be of mutual advantage, and by means of which our present inadequate heating-system may be dispensed with.

CHARLES B. RICE, *Visitor.*

WESTFIELD.

THE present report covers the first year of the Westfield school under the supervision of Mr. Scott, who was appointed as principal in August, 1877. The ability displayed by Mr. Scott during the fifteen years of his services as a teacher in the school gave assurances of success in the new position to which he was elected; and the expectations of the visitors have not been disappointed: the year just closed has been one of the most successful in the history of the school.

On the resignation of Mr. Diller, who had been for several years a successful teacher in the school, the visitors were fortunate in being able to secure the services of Miss Elvira Carver. Miss Carver had previously served as a teacher in the school for more than seven years, and in this service had won the regard of all who knew her, and, by her rare skill as an instructor, had made for herself a wide and enviable reputation. In her absence she had pursued a course of study at Dartmouth College, and had taught a year in one of the high-schools of the State. Returning with improved health, with larger experience, and with a fuller comprehension of the needs of our public schools, her future work here promises to be of even greater value than her past.

Mr. Arthur Hinds has been also added to the board of instruction. He was a graduate of the school, and was therefore familiar with its methods, and ready at once to render efficient services as an instructor. He has given himself unreservedly to his duties, and fully vindicated the wisdom of his appointment.

The other teachers have been long in their places. Of them we need only say, that their labors have been more assiduous and successful than ever before. Their enthusiasm and their devotion make them worthy examples to those under their care.

During the year the school edifice and its surroundings have undergone a great transformation. A considerable number of trees have been removed from the yard ; and the results are a fair approximation to a lawn in the school-yard, and a building better lighted, better ventilated, and more healthful. The building itself has been renovated within and without. In connection with the painting, for which an appropriation was made in 1877, various other improvements have been made, putting the building in a condition of thorough repair.

Arrangements have been made for the introduction of a beam of light into one of the recitation-rooms, by which the instructors are enabled to investigate the phenomena of light, to make most excellent projections of stereoscopic transparencies, and to magnify microscopic preparations so that the details of structure can be distinctly seen at once by all the members of the class. This improvement will be of great service in the teaching of all departments of natural history and natural science.

The text-book and reference libraries have been largely increased, and the cabinets have received valuable additions.

During the year lectures have been given by Secretary Northrop of Connecticut on the " Educational Outlook ; " by Professor Walter Smith on " Good and Bad Taste in Design ; " by Rev. A. D. Mayo on " Girl Graduates of Normal Schools ; " by Professor Bernard Bigsby on the " Development of Languages ; " by Professor W. I. Marshall on the " Yellow Stone Park ; " and by Mr. Lakin of Boston on the " Symbolism of the ancient Egyptians."

Of those who have graduated during the year covered by the report, 32 have engaged in teaching, 1 has continued in the school, 1 has gone as a missionary to India ; and of the remainder none are known to be voluntarily out of the service of the Commonwealth.

Those who have sought admission to this school during the year have been more largely than ever before from the best high-schools, and have shown a better preparation for the professional training the school was designed to give.

The progress of the pupils has been tested monthly by searching examinations, and the standard of promotion and of graduation has been advanced.

The pupils of this school are zealously taught, and they faithfully study the principles of teaching. They apply these principles constantly in class exercises in teaching, and occasionally in the instruction of groups of children. This work is exceedingly beneficial; but it would be still better if the members of the senior class could have the opportunity of regular practice in a school of ordinary pupils, with special preparation, and under the direction of trained teachers. Plans have for some time been under consideration, which, it is hoped, will soon result in furnishing the needed drill and experience, and thus greatly increase the efficiency of the school.

We cannot close this report without calling attention to the fact that the Hon. E. B. Gillett, for many years a visitor of this school, has been compelled during the past year, by ill health, to present his resignation as a member of the Board. Mr. Gillett was eminently fitted for the position which he held: he was a man of rare culture, of broad views, genial in his manners, and wise in counsel. His influence over the school was of the most marked character; and the announcement of his resignation was received by the teachers and pupils, as well as by his associates, with the most profound regret.

In conclusion, the visitors are gratified to be able to say that the past year of the Westfield school has been one of earnest, harmonious, and successful labor on the part of teachers and scholars.

The statistics of the school are as follows: —

Members.

Ladies	122	
Gentlemen	13	
Total		135

Of this number, Hampden County sent 56; Berkshire, 15; Hampshire, 15; Worcester, 9; Franklin, 12; Suffolk, 2; Connecticut, 12; Vermont, 3; New Hampshire, 2; New York, 2; Ohio, Iowa, Pennsylvania, District of Columbia, Nova Scotia, Canada, and China, each 1. Total, 135.

Graduates.

January, 1878:

Ladies	14	
Gentlemen	0	
Total		14

June, 1878:

Ladies	28	
Gentlemen	2	
Total		— 30

Whole number:

Ladies	42	
Gentlemen	2	
Total		— 44

Entering Class.

Aug. 30, 1877:

Ladies	31	
Gentlemen	4	
Total		— 35

Feb. 6, 1878:

Ladies	15	
Gentlemen	0	
Total		— 15

Whole number:

Ladies	46	
Gentlemen	4	
Total		— 50

Average age:

Ladies	19 years	3 mos.
Gentlemen	21 “	10 “
General average	19 “	5½ “

Occupation of parents: Farmers, 18; mechanics, 8; manufacturers, 4; bookkeepers, 2; merchants, 7; laborers, 3; professionals, 3; agents, 2; contractors, 1; unknown, 2. Total, 50.

Recipients of State Aid.

Fall and winter term, 1877–8:

Ladies	25	
Gentlemen	2	
Total		— 27

Spring and summer term, 1878:

Ladies	24	
Gentlemen	4	
Total		— 28

WILLIAM RICE, *Visitor.*

WORCESTER.

THE visitors of the Worcester Normal School herewith present their annual report.

DEATH OF JUDGE CHAPIN.

Hon. Henry Chapin, LL.D., chairman of the Board of Visitors of this school from its establishment, and ever one of its warmest and most judicious friends, died at his home in Worcester on Sunday, the 13th of October, at the age of 67 years.

At the next assembling of the school, the following expression of the sentiments of teachers and pupils was unanimously adopted: —

> "We, the teachers and students of the State Normal School at Worcester, desire to express our sense of the great loss sustained by the school in the death of Hon. Henry Chapin.
>
> "As chairman of the Board of Visitors of the State Board of Education, his relation to the school from the beginning has been so intimate and constant as to seem almost paternal.
>
> "Remembering his sympathy with the object for which the school is maintained, his sagacity and patience in dealing with the details of its organization and progress, and the genial and buoyant influence of his presence and his words, — realizing the value to the school of this rare and manifold service, we deeply feel the loss of a wise and steadfast friend."

TEACHERS.

The corps of able and successful teachers remain as reported last year, with one exception. Miss Florence Foster, after four years of faithful and valuable service, was compelled by infirm health to retire at the end of the summer term. Her work has been temporarily divided among the other teachers.

GRADUATES.

Two gratifying facts are to be recorded with reference to the graduates. First, they have, with scarcely an exception, speedily found employment; and secondly, they have, with very few exceptions, rendered service so acceptable as to secure re-engagements in the schools where they began to teach.

We follow their career after they leave school, and keep a full record of their work as teachers. The body of statistics thus accumulating will soon acquire value, as showing something of the substantial results of the training furnished by the school.

STUDENTS.

The punctuality and industry of our students, as well as the dignity and docility of their behavior, are worthy of unstinted praise. They do their best. Many of them, however, have to be admitted at too early an age, and with too limited a preparation, to reap the full benefit of our instruction. It would seem that a two-years' course that is called professional, and is intended to be a sufficient preparation for successful teaching, ought not to be entered upon by those who have scarcely passed the period of childhood, and whose attainments in elementary studies barely fit them for admission to a good high-school. There is, indeed, a respectable and steady increasing number who come to the normal school as graduates of high-schools and academies; but their presence serves only to make more apparent and embarrassing the immaturity and deficiencies of the others.

In a class whose average age is 19 years, a pupil of barely 16 is obviously at an almost hopeless disadvantage.

Another serious obstacle in our way is found in the fact that a considerable number of our students are physically unfit for teachers. They come to us deficient in vitality; the deficiency being in some cases an original unsoundness of constitution, but oftener the result of protracted overwork. Along with this, there is frequently little knowledge of sanitary conditions and habits, and even less apprehension of the value of such knowledge. These pupils do not understand, and are very slow to learn, that excessive anxiety and sensitiveness, willingness to overwork, want of appetite, inability to sleep, and the like, really disable them for teaching.

The future welfare of our school demands a more vigorous sifting out of such as are here described.

Pershaps some remedy would be afforded by the requirement of a preliminary physical examination, and certificate of soundness from a competent physician, — something, for example, like that required at West Point.

Apprenticeship.

A detailed report of this somewhat unique feature of the course of training in the school was published last year. The added experience of the present year strengthens the conviction then expressed of its value. This difficulty, however, is encountered. The time allowed (six weeks in all) is at once too much to be spared from study, and too little to yield the full benefit of the apprenticeship. This suggests the question, whether a stated allotment of time for this service, — say three or six months, — over and above the two-years' course of study now required, might not with advantage be made a condition of graduation with full honors from this school. The location of the school furnishes an excellent opportunity; such a period of practice is unquestionably most desirable; and the experiment, so far as tried, has been wholly successful.

Lectures.

The anniversary address was delivered by Rev. Thomas Hill, D.D., of Portland.

Instruction in addition to that of the resident teachers has also been given as follows: in Natural History, by Francis G. Sanborn, Esq., of Andover; and in choral singing by Mrs. M. J. Sumner, of the Worcester County Music School.

Library.

One hundred and seventy-one volumes have been added to the reference department of the library, and 200 volumes to the text-book department.

The whole number of volumes now belonging to the school, in both departments, is 3,733.

Statistics.

The statistics of this school for the year 1878 are as follows: —

Whole number belonging to the school during the year:

Ladies	130	
Gentlemen	4	
Total		134

Of this number Worcester County sent 120; Middlesex, 3; Franklin, 1; Nantucket, 1; Maine, 2; New Hampshire, 2; Connecticut, 4; New York, 1. Total, 134.

Number of graduates (all ladies)	24
Number in the entering class (all ladies)	33*
Average age of those admitted	18 years 9 mos.

Occupation of parents: Farmers, 9; mechanics, 8; housekeepers, 6; miscellaneous, 10. Total, 33.

Number who received State aid: —

Fall and winter term (all ladies)	12	
Spring and summer term (all ladies)	10	
Whole number who received State aid during the year	—	22

WILLIAM RICE, *Visitor.*

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* In compliance with a vote of the Board, no class was admitted in February.

FRAMINGHAM.

This institution has never been held in higher regard by this community than it now is, under the charge of Miss Ellen Hyde, whose administration of its affairs as principal has been earnest and efficient. It is doing an admirable work, and sending forth excellent teachers, whose labors and influence in our public schools will repay manifoldly the expenditures made by the State.

At the close of the school year two of the assistant teachers, Miss Caldwell and Miss Conant, resigned; and Miss Isabella L. Wight, a graduate of 1862, and Miss Mary G. Montgomery of Halifax, N.S., were appointed in their places.

The statistics for the year 1877–78 are as follows: —

Whole number of pupils	105
Graduates in January	10
Graduates in July	21

Four took the four-years' course.

The pupils came from the following counties of this State, and from other States, as follows: Middlesex, 45; Worcester, 30; Norfolk, 9; Bristol, 3; Suffolk, 2; Franklin, 2; Barnstable, 1; and from New Hampshire, 6; Vermont, 3; Maine, New York, and Pennsylvania, 1 each; and from Canada, 1.

Occupations of parents: Farmers, 26; mechanics, 22; shoe-manufacturers, 10; traders, 11; manufacturers, 3; clergymen, 4; physicians, 2; lawyers, 2; teachers, 3; mill-agents, 2; insurance-agent, cashier, conveyancer, baker, miller, expressman, editor, butcher, sea-captain, and civil-engineer, 1 each.

Previous Education.

From high-school	63	
common school	27	
private schools	5	
academies and seminaries	10	
		105

The 63 who came from the high-schools are not all *graduates* from them. It is desirable that all the pupils, before they enter the school, receive a high-school education or its equivalent;

but this is impracticable. The standard of admission can, however, be easily raised, by changing the admission age from 16 to 17 years. An additional year in preparatory studies, and in maturing the physical powers, would be of very perceptible advantage to the entering classes; and the result would soon manifest itself in the increased efficiency of the school. Lengthening the course of study would also work favorable results.

The principal reports to the visitors as follows: "There has been a steady growth in all things which I consider most essential, — honest and cordial relations between pupils and teachers, the power of self-control in the pupils, and facilities for professional training. It has been my constant aim, in the discipline of the school, to produce unconstrained and joyous self-discipline; because I consider that the highest result of any government. To this end I have been willing to sacrifice something of the quiet and improving order which are produced by rules; and I am satisfied with the result. The facilities for professional training in the model school have been much improved during the year. Under the wise and devoted efforts of Miss Williams and Miss Barker, that school has been quite made over. The discipline is excellent, the best methods of teaching are in use, and I am now able to have three young ladies constantly in the school for the purposes of observation and practice."

During the year the school building has been painted on the outside, some changes made in the interior for the benefit of the model school, and a rustic fence built at small cost around that part of the grove in the rear of the grounds which belongs to the State.

An enlargement has been made to the principal's reception-room in the boarding building, adding much to the comfort and well-being of the family.

The expenditures for books and apparatus have been insignificant. Most of the interest of the Todd Fund was expended for a course of historical lectures by Dr. John Lord. Several lectures have been delivered by Rev. A. D. Mayo and Professor Atkinson; and single lectures by Mr. James T. Fields, Rev. Josiah H. Temple, and Mr. J. C. Clark.

The management of the boarding building is conducted in a most satisfactory manner by the matron, Miss Beach.

The death of the Hon. Henry Chapin, which occurred Oct. 12, was the most important event in the history of the institution since the last report. He was a warm, faithful, and loved friend of this school. His valuable services and genial co-operation can never be forgotten by me, his associate-visitor.

"Though we have seen him but seldom since he was last appointed on the Board, on account of his health," says the principal, "yet he was so wise and strong, and so true a friend, that the simple knowledge of his relation to us was a pleasure, and we were sure that he was always exerting an influence for our good. We were loath to give him up, but God had other and higher work for him to do."

C. C. ESTY, *Visitor.*

DECEMBER, 1878.

SIXTH ANNUAL REPORT

OF

THE BOARD OF VISITORS

OF THE

MASSACHUSETTS NORMAL ART-SCHOOL.

1879.

MASSACHUSETTS NORMAL ART-SCHOOL, BOSTON.

It is hoped that this school has passed from contested ground to a recognized field of usefulness. Furnishing the alphabet of the next great step of progress in our American industries, it is opening the way both to a higher appreciation of beauty and variety in ornamentation, and to an ability to meet the need that shall thus be created. It is the superior attainment in this respect of Great Britain and several of the nations on the Continent, that distances us in the sale of many of our manufactures in the open markets of the world. Not only cannot our most artistic products compete with those of the more advanced nations abroad, but they cannot hold the home market against the raids of foreign skill. There is no inherent necessity whatever for such a state of things. American scenery, atmosphere, and resource are in no wise inferior to those of the Old World: American genius, inventiveness, industry, and persistence are perhaps equal to those of any people. In one respect, the general diffusion of education, several of our States may claim a decided superiority over most manufacturing peoples. It may be presumed, therefore, that ours is a soil peculiarly favorable to the nurture of taste, skill, and enterprise in whatever pertains to the advance of the arts among us.

The extent to which the influence of this school has been felt in rearing teachers of industrial art for all the lower grades of schools, extending not only to the chief cities of our own State, but to many of the remoter States of the Union, promises that it shall be diffused at an early day thoughout the land.

The Universal Exposition just closed at Paris, while promising large measures of good for our country, and winning special honors for this school, has furnished an additional illustration of the popular and industrial needs among us. At an hour when educators on every hand are urging the importance of increased attention to industrial education, and pressing the duty of familiarizing the young, while passing through the several grades of schools, with the various implements of manufacturing industry, thereby determining their special aptitudes, and placing them face to face with whatever vocation they may see fit to adopt, we surely cannot hesitate to sustain liberally a department of instruction which underlies all handicrafts as the alphabet underlies all literature.

It must be confessed, however, that the school will confer its highest benefits in quite another than the industrial field. The development of skill, the improvement of the popular taste, and the enhancement of general well-being, all conspire to the refinement of the sensibilities, the enlargement of the capacity for enjoyment, and the deepening of the river of life.

The statistics for the year ending June 30, 1878, are as follows: —

The whole number in attendance during the past year is: —

Ladies	181	
Gentlemen	84	
Total		265

Of this number: —

Suffolk County furnishes	145		
Middlesex County "	78		
Essex County "	15		
Norfolk County "	9		
Worcester County "	5		
Plymouth County "	5		
Franklin County "	2		
Bristol County "	1		
		260	
Minnesota furnishes		2	
New Hampshire "		1	
Vermont "		1	
Canada "		1	
Total			265

Number in the entering class of the year: —

Ladies	75	
Gentlemen	53	
Total		128

Average age of the entering class:

Ladies	21 years 10 months.
Gentlemen	22 " 4 "
General average	21 " 11 " 27 days.

Number of graduates or diplomas . . . . None.

Number who obtained certificates : —

		Ladies.	Gentlemen.
Certificate A	44	33	11
B	17	15	2
C	2	–	2
D	5	3	2
Total	68	51	17

Occupation of parents of the entering class : Mechanics, 32 ; teachers, 13; clerks, 4 ; teamsters, 2 ; storekeepers, 2 ; marble-cutter, 1 ; merchants, 7 ; bookkeepers, 2 ; machinists, 10; bootmakers, 2 ; engineers, 2 ; masons, 2 ; manufacturer, 1 ; farmers, 5 ; doctor, 1; ship-carpenter, 1 ; superintendent of schools, 1; lawyer, 1 ; provision-dealer, 1; clergymen, 2 ; lumber-merchant, 1; surveyor, 1 ; commission-merchant, 1 ; civil engineers, 3 ; blacksmiths, 2 ; traveller, 1 ; inventor, 1 ; editor, 1 ; pianoforte-maker, 1 ; photograph-colorer, 1 ; insurance-agent, 1 ; carpenter, 1 ; salesmen, 2 ; sailor, 1 ; wood-turner, 1 ; printer, 1 ; iron-founder, 1 ; draughtsman, 1 ; builder, 1 ; copyist, 1 ; fish-dealer, 1 ; lithographer, 1 ; house-painters, 2 ; jeweller, 1 ; lecturer, 1 ; captain of the watch, Navy Yard, 1 ; janitor, 1 ; milk-dealer, 1 ; architect, 1 ; shoe-manufacturers, 2. Total, 128.

The work of the school for the fifth year of its history, ending with June, 1878, was completed in a very satisfactory manner. It is divided among 4 classes, requiring as many years of exclusive devotion for compassing it. Only the lower classes have had the necessary time to become positively strong, though some very good work has been done in all. Only as the work of the higher departments progresses, embodying more and more the various elements embraced in the lower departments, can the school as a whole be seen to advance. The results it has shown in the several annual exhibitions in the city of Boston have been matter for just pride and encouragement. At the close of the year covered by this report, it appeared to be the general judgment, that "the students had well earned their certificates," and justly deserved the honors conferred upon them by the State.

The expenses of the school will fall within the limits of the appropriation. For the legislative year, Jan. 1 to Dec. 31, 1878, the appropriation was $20,000. The total expenses chargeable to the appropriation will amount to $19,788.75, leaving a balance of $211.25. To secure this result, a reduction of 5 per cent on the salaries was made during the school-year of 1877–8, and has been thus far continued on the year 1878–9. The receipts and disbursements on account of the incidental fund have also been reported by the curator, and are found to be satisfactory.

The visitors of the school renew their appeal to the authorities of the State for the appropriation of a suitable site for a Normal Art School building. That previously designated, at the corner of Dartmouth and Boylston Streets, has very greatly the preference. The lease of the present premises in School Street will expire one year from next July. Removal from one place to another is attended with great expense in fitting the rooms to conform to the necessities of art-instruction, the cost on taking possession of the present rooms being nearly $5,000; and, whenever they are vacated, another considerable outlay will be requisite to restore them to their former condition, which, of course, is required by the terms of the lease. Not until the school is established in a building of its own, can it be regarded as removed from all contingency.

Respectfully submitted.

A. A. MINER,
CHAS. B. RICE,
Visitors.

Boston, Dec. 4, 1878.

FINANCIAL STATEMENT.

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION.

APPROPRIATIONS FOR NORMAL SCHOOLS.

Dr.				Cr.		
1878.	Framingham School —			1878.	Appropriation	$64,000 00
	Salary of principal	$2,500 00				
	Salaries of assistants	6,960 07				
	Care of building, repairs, and furniture	1,763 33				
	Fuel and lights	502 74				
	Books, stationery, advertising, &c.,	186 82				
	Apparatus, &c.	73 00				
	Contingent	33 00	$12,018 96			
	Westfield School —					
	Salary of principal	$3,000 00				
	Salaries of assistants	6,994 91				
	Care of building, repairs, &c.	1,175 64				
	Fuel and lights	454 66				
	Books, stationery, &c.	565 85				
	Apparatus, &c.	80 82				
	Contingent	62 01				
	School of Observation	500 00	$12,833 89			
	Bridgewater School —					
	Salary of principal	$3,000 00				
	Salaries of assistants	9,459 69				
	Care of building, repairs, &c.	195 81				
	Fuel and lights	344 50				
	Books, stationery, &c.	–				
	Apparatus, &c.	–				
	Contingent	–	$13,000 00			

Salem School—				
Salary of principal	$3,500 00			
Salaries of assistants	8,492 77			
Care of buildings, repairs, &c.	–			
Fuel and lights	–			
Books, stationery, &c.	–			
Apparatus, &c.	22 15			
Contingent	45 00			
		$12,059 92		
Worcester School—				
Salary of principal	$3,000 00			
Salaries of assistants	7,144 27			
Care of buildings, repairs, &c.	744 53			
Fuel and lights	567 41			
Books, stationery, &c.	1,026 13			
Apparatus	10 70			
Contingent	181 93			
		$12,674 97		
		$62,587 74		
Appropriation not expended		1,412 26		
		$64,000 00		
Normal Art School—			Appropriation	$20,000 00
Salary of principal	$2,500 00			
Salaries of assistants	9,213 04			
Rent	4,500 00			
Taxes	832 64			
Care of rooms	300 00			
		$17,345 68		
Appropriation not expended		2,654 32		
		$20,000 00		

DR. FINANCIAL STATEMENT OF THE BOARD OF EDUCATION. — CONTINUED. CR.

APPROPRIATIONS FOR STATE AID.

1878.	Treasurer's checks —			1878.	Appropriation	$4,000 00
June 29,	Ellen Hyde, Framingham . .	$400 00				
29,	J. G. Scott, Westfield . . .	400 00				
29,	A. G. Boyden, Bridgewater . .	400 00				
29,	D. B. Hagar, Salem . . .	400 00				
29,	E. H. Russell, Worcester . .	400 00	$2,000 00			
	Appropriation not expended . .		2,000 00			
			$4,000 00			

APPROPRIATION FOR AGENTS.

1878.				1878.	Appropriation	$5,400 00
	George A. Walton, salary . .	$2,250 00				
	Travelling expenses . . .	466 05				
	E. A. Hubbard, salary . . .	2,250 00				
	Travelling expenses . . .	414 96	$5,381 01			
	Appropriation not expended . .		18 99			
			$5,400 00			

Teachers' Institutes.

1878.				1878.	Appropriation	$2,000 00
	Rutland Institute	$87 75				
	Ashland Institute	94 93				
	Winchester Institute	90 95				
	Westford Institute	110 00				
	Lawrence Institute	101 35				
	Gloucester Institute	91 46				
	Hyannis Institute	108 46				
	Peru Institute	70 46				
	Monterey Institute	122 66				
	Whately Institute	92 07				
	Uxbridge Institute	79 88				
	Rockland Institute	18 63				
	Weymouth Institute	59 37				
			$1,127 97			
	Appropriation not expended . .		872 03			
			$2,000 000			

Expenses of Members of the Board.

				1878.	Appropriation	$400 00
1878.	Charles B. Rice	$33 53				
Dec. 23,	Appropriation not expended . .	366 37				
		$400 00				

Dr. FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONCLUDED. Cr.

POSTAGE, PRINTING, STATIONERY, ETC.

1878.	Postage	$48 50		**1878.**	Appropriation	$2,000 00
	Expressage	7 50				
	Stationery, binding, &c.	90 05				
	Printing School Registers, &c.	798 60				
	Packing and distributing documents	55 00				
	Incidentals	13 25	$1,012 90			$2,000 00
	Appropriation not expended		987 10			
			$2,000 00			

OLIVER WARNER,
Treasurer of the Board.

BOSTON, Jan. 1, 1879.

FORTY-SECOND ANNUAL REPORT

OF THE

SECRETARY OF THE BOARD.

SECRETARY'S REPORT.

Gentlemen of the Board of Education.

I respectfully present herewith the Forty-second Annual Report of the Secretary.

Summary of Statistics for 1877–78.

Number of cities and towns, — cities, 19 ; towns, 325		344
All have made the annual returns required by law.		
Number of public schools		5,730
Increase for the year	174	
Number of persons in the State between 5 and 15 years, May 1, 1877		297,202
Increase for the year	827	
Number of pupils of all ages in all the public schools during the year		310,181
Increase for the year	2,349	
Average attendance in all the public schools during the year		228,447
Increase for the year	5,743	
Ratio of average attendance for the year to the whole number of persons between 5 and 15, expressed in decimals		76.85
Number of children under 5 years of age attending public schools		1,945
Decrease for the year	113	
Number of persons over 15 attending public schools		27,404
Decrease for the year	786	
Number of towns which report having made the provisions concerning truants required by law		160
Number of different persons employed as teachers in public schools during the year, — males, 1,115 ; females, 7,390.		
Decrease of males, 55 ; decrease of females, 154 ; total decrease, 209.		
Number of teachers who have attended normal schools		3,060
Average length of public schools (8 months and 16 days)		8–16
Average wages of male teachers (including salaries of high-school teachers) per month		$75 64
Decrease from last year	$6 58	
Average wages of female teachers per month		33 04
Decrease from last year	$1 16	

Amount raised by taxation for support of public schools, including only wages of teachers, fuel, care of fires and schoolrooms		$4,191,510 77
Decrease for the year	$140,165 08	
Income of funds appropriated for public schools at the option of the towns, as surplus revenue and tax on dogs		60,833 58
Increase for the year	$1,604 57	
Voluntary contributions of board, fuel, apparatus, &c., for public schools		8,010 76
Increase for the year	$2,730 78	
Expense of superintendence by school committees, including salaries of superintendents of schools		159,164 80
Increase for the year	$27,360 41	
Expense of preparing and printing school reports		13,012 22
Decrease for the year	$2,762 49	
Amount of local school funds, the income of which can be legally appropriated only for the support of schools and academies		1,755,615 27
Decrease for the year	$143,275 92	
Income of local funds appropriated to schools and academies		93,353 43
Decrease for the year	$26,614 83	
Income of State school fund paid to cities and towns in aid of public schools for the school year 1877–78		70,430 65
Amount of salaries paid to superintendents of public schools		51,984 78
Aggregate returned as expended on public schools alone, exclusive of expense of repairing and erecting schoolhouses, and cost of school-books		4,502,962 75
Decrease for the year	$117,123 23	
Sum raised by taxes, and income of funds at the option of towns, and the tax on dogs (exclusive of taxes for school edifices and superintendence), for each child in the State between 5 and 15 years of age — per child		14 30.5
Decrease for the year	$0 51	
Percentage of the valuation of 1877 appropriated for public schools, including only wages of teachers, fuel, care of fires and schoolrooms (two mills and fifty-one hundredths)		0 00.2$\frac{51}{100}$
All the towns and cities have raised by taxation the amount required by law ($3 for each person between 5 and 15), as a condition of receiving a share of the income of the State School Fund.		
Amount expended in 1877 for erecting schoolhouses		301,764 76
Decrease for the year	$285,199 37	
Amount expended in 1877 for repairing schoolhouses		313,162 32
Decrease for the year	$57,256 88	
Total amount expended on schoolhouses in 1877		614,837 08
Number of schools returned as high schools		216
Number of teachers, 595 ; number of scholars		19,514
Amount of salaries paid to principals of high schools		$288,127 57

Evening schools, — number, 94, kept in 32 cities and towns; number of teachers, 457; whole number attending, males, 8,986; females, 2,731: whole number attending, 11,717. Average attendance, 5,552. Expense	$75,892 02
Schools in charitable and reformatory institutions, — number, 19; number of different pupils, 1,219; average number attending during the year, 789; number under 5 years, 15; number over 15, 372; number between 5 and 15, remaining Aug. 31, 1878, 500; number of teachers — males, 4; females, 15; wages of male teachers, per month, $58 83; female teachers, per month, $25; length of schools, 12 months.	
Number of incorporated academies	64
Average number of scholars	8,454
Aggregate tuition paid	$185,334 19
Number of private schools and unincorporated academies	399
Estimated average attendance	15,540
Estimated amount of tuition paid	$325,059 60
Amount paid to maintain public schools, — for wages, fuel, care of fires and schoolrooms, repairing and erecting schoolhouses, supervising schools, printing reports of school committees, providing apparatus, and instruction of children in charitable and reformatory institutions, &c.	5,301,853 60
To each person in the State between 5 and 15 years of age	17 84
Percentage of valuation of 1877 (four and one-half mills)	0 00.4½

DEAF-MUTES.

Under the requirements of the Acts of 1867, chap. 311, sect. 3, I submit the following statistics of the attendance and expenses of the Massachusetts pupils in the several schools for deaf-mutes: —

American Asylum at Hartford, Conn.

Number of pupils during the school year 1877–78	74
of pupils admitted the present year	19
of pupils present Jan. 1, 1879	85

Clarke Institution, Northampton.

Number of pupils during the school year 1877–78	86
of pupils admitted the present year	19
of pupils present Jan. 1, 1879	76

Horace Mann School, Boston.

Number of pupils during the school year 1877–78	77
of pupils admitted the present year	8
of pupils present Jan. 1, 1879	76

Whole number in the schools, Jan. 1, 1879	237

During the past year blank forms have been sent to the school committees of all the cities and towns in the Commonwealth, requesting the following information concerning their respective deaf-mute population : —

1. Name of deaf-mute in full.
2. Date of birth.
3. Name and post-office address of the parent or guardian.
4. Has the deaf-mute a sound mind ?
5. Has he or she ever been taught ?

In response to these questions, much information has been received in regard to this class of persons, and an increased interest awakened in their welfare. As a result, a larger number than during the last year has been sent to the various schools for deaf-mutes. Still there is reason to believe, that, owing to the reluctance of the parents of these unfortunate children to send them from home, many in the State remain out of the schools who ought to receive the benefit of the educational facilities now offered.

Extracts from the last annual reports of the institutions at Hartford, Conn., and at Northampton, are appended, and a more full special report of the Horace Mann School in Boston, from which a general idea of the management and advantages respectively of these different schools may be gathered. It is to be hoped that such interest may be awakened in the education of these wards of the State, that no child who is a proper subject for admittance to the school provided for his instruction shall fail to enjoy its advantages.

American Asylum.

The entire number of pupils under instruction for the year ending May 1, 1878, has been 271. Thirty-one were new pupils, 6 of whom were from Maine, 5 from New Hampshire, 2 from Vermont, 13 from Massachusetts, 4 from Connecticut, and 1 from New Jersey. Six were former pupils readmitted. No deaths have occurred, and but few cases of serious sickness. Fifty-nine pupils left during the year, several of whom expect to return. The number now present is 212.

During the past, as during several previous years, the endeavor of this institution has been directed mainly towards increasing the efficiency of its *intermediate* course of instruction, in distinction from its more advanced attempt in its high class. Experience has fully convinced us that there is danger in prematurely awakening the ambitious desires of our pupils for something beyond the elementary studies of a common-school course. While intending no disparagement of the praiseworthy effort which the last twenty years have witnessed, first in this institution, and then in numbers of others, to provide for the advanced education of deaf-mutes by high classes and by other arrangements, the conviction has still been forced upon us, that the real elevation and improvement of the deaf-mutes, as a class, is best promoted by systematizing and advancing to its highest efficiency the strictly common-school course of instruction. With this conviction our recent effort has been so to systematize this primary course, and so to grade our classes and perfect our methods, as to make membership in the most advanced classes of the regular course really significant of more solid and useful attainments than high-class membership has hitherto been.

The results of this effort during the past year have been very gratifying to us. Our examinations have witnessed to a thoroughness and success in this department not hitherto within the experience of our institution. As this elevation and advancement of our regular course meets the real wants of most of our pupils, and is deemed by us as of far greater importance to all of them than more showy and ambitious studies, we have suspended our so-called High Class, or, to speak more accurately, have conferred upon it and its members the name of First Class.

Sixteen semi-mutes and 24 deaf-mutes — about 15 per cent of the whole number — have received instruction in articulation, with the aid of Bell's system of "Visible Speech," in connection with their regular studies. Thirty-one pupils are so taught at present. Lip-reading has been practised by all except 6, who were beginners. Two teachers have given their whole time to this department, and much patient effort has been expended. In some cases, good progress has been made : in others the returns for the labor seem small, and their value will be differently estimated by the disinterested visitor and by the partial parent.

During the year, 35 of the older boys have been taught the elements of mechanical drawing. This instruction is of value in industrial labor, since those who have not advanced so as to draw very accurately are aided in laying out their work, and are able to understand a drawing, and to work from it.

In the industrial department, 148 pupils have been instructed for 3 hours a day. The clothing made in the tailor-shop is all used in the institution, and the surplus of boots and shoes after supplying the pupils has found a ready sale ; but there has been only a limited demand for furniture, and much of the work in the cabinet-shop has been done for the institution. A reading-room has been neatly fitted up, a number of closets and teachers' desks has been made for the schoolrooms, and the tables and work-benches in the shops which had become dilapidated, have been renewed.

Twelve boys who left school during the year had such a knowledge of a trade as to be able to support themselves by it; and we frequently hear of our graduates who have become successful mechanics.

According to "The American Annals," there are at present 49 institutions for the deaf and dumb in the United States, containing more than 5,000 pupils. The value of the buildings and grounds is about $6,000,000 ; and the amount expended last year for support was $1,100,000, most of which was obtained through legislative appropriations.

Eleven years ago this institution was the only one for deaf-mutes in New

England, and contained 224 pupils. Since that time 5 other schools have been established in those States from which our pupils are received, that contain, according to the same authority, 180 pupils. In these 5 schools the use of the finger alphabet and of the sign language is discarded, and the articulation method is used. As this latter method is claimed by its advocates to be especially adapted to the semi-mute and semi-deaf, who constitute about one-ninth of the whole body of deaf-mutes, and is most successful with this class and with certain deaf-mutes who possess special aptness for learning speech, there will continue to be a large class, comprising many of good mental ability, as well as those of less than ordinary capacity, for whom the sign-method is best adapted, even on the assumption, which we do not admit, that signs should be ignored in the education of the more intelligent semi-mute.

Although so many deaf-mutes are attending school in New England, there are yet a considerable number who are out of school, and are growing up in ignorance, but who might, by a proper amount of effort, be brought within the reach of education.

Our institution has capacity for 250 pupils; and it is to be hoped that such provision may be made that the advantages here offered may be enjoyed by still more of those who need them.

Clarke Institution.

The Clarke Institution, since its last Annual Report, has had practical experience of the division of its pupils into 2 distinct departments, one for primary instruction, and one for the studies of the common and high course. It should be understood, and cannot be too clearly stated, that in most cases it is only a common-school course which deaf pupils can pursue, and even that not carried so far as in many of the public schools of Massachusetts. The pupils who acquire a knowledge of the higher branches must be comparatively few (as they are in our public schools), while, from the difficulties which deafness creates, the time spent in learning the elementary branches is generally prolonged. If, in addition to these, the deaf pupil shows some dulness or eccentricity of mind, as not unfrequently happens, his progress in learning is still more delayed, and a point may be reached beyond which he cannot easily go. Add to this, again, the fact that the same disease or defective condition of health which first caused the deafness may continue to affect the vigor of the child, and it will readily be seen that the teacher of deaf children has to contend against many obstacles which hardly show themselves in the instruction of those who can hear. To overcome these, the corporation has endeavored to secure teachers who have a special fitness for our method of instruction; and in this we have been so far successful that the results at the Clarke Institution have been useful and encouraging in a high degree. Were this simply our own opinion, we might hesitate to express it with entire confidence; but it is confirmed, as we understand, by the judgment of the Board of Education, which supervises all the schools of Massachusetts, and by that of other impartial persons from many states and countries, who have visited and inspected our schools. A difference of opinion still exists as to the extent to which the teaching of articulation and by articulation ought to be carried in particular cases ; but all who understand our methods and results are agreed, that much useful instruction is given here, where the only teaching is by articulation, and where but one-third of the whole number received have been either semi-deaf or semi-mute. Practically a majority of them are congenital mutes, who here acquire and retain articulation, and are made independent of the sign language in their whole education.

In order to do this, it is important that the instruction of our pupils should begin early, and should be carried on as methodically and with as many advantages as possible. Classification thus becomes specially important ; and the division of pupils into 2 separate schools, one for the younger and the less advanced, and the other for older and more proficient pupils, is a necessary step in this classification. During the past year we have had 49 pupils (27 boys and 22 girls) in the primary department at Baker Hall ; while 23 pupils (8 boys and 15 girls) have been taught in the grammar-school department in Clarke Hall. At the present time (Oct. 8, 1878) the number in the primary department, entered for the school-year 1878–9, is 56, of whom 31 are boys and 25 are girls ; while in the grammar-school department there are 21 pupils (8 boys and 13 girls); and in both departments 77 pupils (39 boys and 38 girls). These numbers indicate, what will probably be found to hold good hereafter, that the primary department contains two-thirds of all the pupils who come under instruction in the Clarke Institution. As these pupils advance from the lower classes to the higher, their number decreases; and in the graduating classes of successive years, for a considerable time to come, it is probable that the number of pupils will be small, as it was in the past summer. Only 4 pupils graduated from the school in the past year, while 9 left without graduating. This withdrawal of pupils, without completing the course, naturally takes place in all schools where the period of instruction is so long as it is in the deaf-mute schools of Massachusetts, — 10 years being now allowed to such children as can remain through the entire course.

The average number of pupils in both departments was 68, or 4 greater than in 1877 : yet the current expenses of the school, with its 2 departments in actual operation, and a larger average number of pupils, were but $327 greater than the year preceding. In the school-year already begun, the average number of pupils will probably be more than 75; but the current expenses are not estimated at more than $26,000, while in the year just closed they were $25,542.86. Two years ago we estimated the annual cost of a school containing 100 pupils, in 2 departments, at about $31,000, which is not likely to be exceeded.

HORACE MANN SCHOOL.

The constantly increasing interest in the establishment of day schools for deaf children prompts me to give a brief outline of the history of this school, which bears the name of one of my honored predecessors, the Hon. Horace Mann, first Secretary of the Massachusetts State Board of Education.

The following paragraphs are taken from the reports of the Committee on the School: —

"In the year 1868 the Rev. Dexter S. King, a member of the School Board of Boston, and also a member of the State Legislature, became interested in the instruction of deaf-mutes in articulation, as taught in the Clarke Institute in Northampton, Mass., and conceived the idea of a public day-school for deaf-mute children in Boston, under the direction of the School Board. In the month of May of the same year, at the instance of Mr. King, a committee was appointed by the Board, to consider and report on the expediency of establishing such a school. Some inquiry was instituted, and some facts gathered, but no report was made. In January, 1869, the subject was again committed to the same gentlemen; and in April Mr. King, the chairman of the committee, reported 'that such a school ought to be established, for the reason that there are enough deaf-mute children in the city, entirely destitute of the means of education, to form such a school, and whose friends would joyfully improve the opportunity of sending them to school; also on the ground of economy. The portion of State aid to deaf-mutes paid by Boston, if applied to the education of her beneficiaries alone, would amount to more than $400 per annum for each pupil.'

"The committee urged that the school be made a public benefit beyond the limits of Boston, by offering its privileges to children in surrounding cities and towns, for whose tuition a charge might be made.

"The committee submitted the following order, accompanied by others for the proper organization of the school, which was adopted: '*Ordered*, That a school for deaf-mutes be opened, under the direction of this Board, at the commencement of the next school year.'

"Owing to the difficulty in procuring suitable rooms in a central locality, the school was not opened until Nov. 10, 1869, and for a time was kept in two divisions, one East Street and the other on Somerset Street. Better rooms were soon after found at No. 11 Pemberton Square, to which the children were removed, and which have since been occupied by the school. Thirty-six applications for admission were received at the opening of the school; but owing to the want of room, and the impossibility of immediate classification, only 25 were at first admitted."

The following table shows the number of pupils in attendance during the successive school years: —

SCHOOL-YEAR.	No. of Pupils.	SCHOOL-YEAR.	No. of Pupils.
1869–70	38	1874–75	71
1870–71	50	1875–76	79
1871–72	52	1876–77	76
1872–73	54	1877–78	77
1873–74	64		

The number of different pupils registered since the opening of the school is 153. Of this number 31 retained partially the speech acquired before they became deaf, 80 lost hearing before the age of 4 years, and 30 were born deaf. The remainder had entirely lost speech.

"The school having outgrown its accommodations in Pemberton Square, the City Council, during the summer of 1875, in response to a request from the committee of the school 'to furnish more and better accommodations for the School for Deaf-Mutes,' refitted, in a satisfactory manner, an unoccupied school-building upon Warrenton Street, belonging to the city ; and in September of that year the sessions of the school were opened in its present location. The building now occupied contains 7 class-rooms, a reception-room, a large play-room, and has a yard in its rear. Every part is well heated by furnaces, and the means of ventilation are good.

"For a long time the older pupils of the school had objected to the name, Boston School for Deaf-Mutes, because the word 'mutes' gave a wrong impression of their condition. 'For,' said one to his teacher, 'we are not mutes : we can talk.' Another, writing after the school had received its present name, expressed this feeling more strongly, as follows : 'Most every morning, when I enter Warrenton Street, I see men and ladies reading the sign on our school-door ; and I do not like to have them read it. When they come to read it again, they will think this school has moved, and another school moved here ; and then they will not think we are deaf scholars, if we do not make any signs going or coming to school.'

"Some of the teachers were in sympathy with this objection, and an effort was made to secure a change of name. At a meeting of the Boston School Committee, May 8, 1877, the following order was passed : 'That the School for Deaf-Mutes be afterwards called the Horace Mann School for the Deaf.'

"In one of his annual reports (1843), as Secretary of the Massachusetts Board of Education, Mr. Mann described the German method of teaching articulation to the deaf, and urged its adoption in this country. In the language of Dr. Howe, when addressing a committee of the State Legislature upon the importance of providing this method of instruction for its deaf wards, 'it took 20 years for this suggestion of Mr. Mann to bear fruit,' but its importance is now universally admitted; and it seems eminently fitting to associate with this school, sustained in part by State funds, the name which it now bears, since it is included in the public-school system of the State of Massachusetts, for the improvement of which Mr. Mann labored so earnestly, and is organized with reference to a system of instruction, the benefits of which he made known to this community."

The German method of teaching articulation was employed in the school until 1871, when Professor A. Melville Bell's admirable system of "Visible Speech" was introduced. This was the first application of the system to teaching the deaf in

America; and the satisfactory results observed here have led to its adoption by several schools and institutions in the country.

The following extract from the Regulations of the Public Schools of the City of Boston shows the scope of the instruction: —

> "This school is designed to give an elementary English education; but, as a preparation for this, it must first impart to pupils entering as deaf-mutes the meaning and use of ordinary language. It aims to teach all its pupils to speak, and to read the speech of others from their lips."

One peculiar feature of this school is the teaching of the congenitally deaf, and of those who retain something of speech, in separate classes. The child who has but a remnant of speech is thus encouraged to use it, and to try to understand what is said by those around him; and every means that ingenuity can devise is employed for the preservation of speech, and for the correction of faulty habits of utterance.

The present school year began Sept. 2, with 67 pupils. Since that time 7 new pupils have been admitted, 5 former pupils re-admitted, and 3 discharged. The number now belonging is 76.

The course of study is similar to that pursued in the primary and grammar schools; and the progress of the pupils in some branches compares well with that of hearing children of the same age, notwithstanding the fact that one of the natural avenues to the mind is closed to the teacher, and that more than the usual time and effort must be given to securing the vocal expression of the simplest thought.

This latter result, however, is made prominent throughout the teaching, which is based upon the theory, now generally admitted, that dumbness is not a necessary accompaniment of deafness, and that, by sufficiently early and long-continued efforts, the organs of deaf children may be trained to intelligible speech. On this point we quote an English authority upon the subject: —

> "It would be well, before going any farther, to get rid of the idea, so common among hearing people, that children 'deaf and dumb' are quite different from others. For instance, it is often imagined that they must be of weak intellect: this is a mistake. True, some have not full mental development, which is not to be wondered at when the causes of congenital and accidental deafness are remembered. Often it is a fever that takes away hearing, and leaves mind and body in an enfeebled condition. Such, how-

ever, is just as often the case with hearing children after suffering like maladies. The brain is uninjured in the vast majority of the deaf, and is exactly the same as that of hearing children.

"Another very common fallacy is, that the child does not speak — is dumb — on account of some malformation of the vocal organs. Now, this is so rare a case, if, indeed, it exist at all, that it cannot be classed as one of the causes of dumbness. Indeed, there are but two causes, so far as I know, of absolute dumbness; viz., want of brain-power, and deafness. As the latter causes dumbness only on account of want of proper education, the former is the only true cause. The term 'deaf and dumb' is really an unnatural and artificial one, expressing not the action of nature under favorable circumstances, but the result of neglect.

"It is not uncommon to meet with dumb persons who have their hearing perfect: their dumbness arises from defect of brain. But what I have never met with is dumbness except through disuse of voice. There is no such thing as a child born dumb because deaf. The born deaf are at first exactly the same as hearing children; they cry, sneeze, crow, laugh, ay, and talk too, like hearing children. This may seem very startling; but, startling though it be, it is true. The born deaf do talk, in their own baby language, just like hearing children of the same age: only we do not understand them. What mother understands all her hearing baby says at first? But it will be said, 'Even if this be so, hearing children can understand all that is said to them, and that is what deaf ones never can.' Really! Can hearing children understand all that is said to them? Then why do mothers and nurses say the same thing over and over again, a hundred times? And, when the hearing child can imitate what is said to it, does it therefore know the meaning? Does it know what 'papa' and 'mamma' mean, because it can say the words? Of course not.

"The objects must be shown with the words spoken, and shown over and over again too, before the hearing child can connect the object with the spoken word; and so — exactly so — is it with the deaf child. You do not let it go on talking its own language; but, just as with the hearing, you educate it to repeat certain sounds after you, and to connect those sounds (spoken words) with certain objects: only with the deaf you cannot through the ear, and so must through the eye. It is all by imitation, as with the hearing child; it does not 'come natural,' as unthinking people so often say, either to the hearing or to the deaf."

PERKINS INSTITUTION AND MASSACHUSETTS ASYLUM FOR THE BLIND.

The amount paid to this institution from the treasury remains as heretofore, at the sum of $30,000 per year, with the condition, that persons sent by warrant of the Governor, as beneficiaries of the Commonwealth, are maintained and educated free of individual charge.

The quarterly report of the Director, M. Anagnos, shows the attendance for the quarter ending Dec. 31, 1878.

SUMMARY.

	Total.	Males.	Females.
Number at the close of last quarter	158	95	63
Received during the quarter	4	2	2
Whole number during the quarter	162	97	65
Discharged during the quarter	11	6	5
Present number	151	91	60
Average during the quarter	156	93	63

Admissions.

No.	NAME.	Age.	Birthplace.	Residence.
950	Junie E. Giles	13	Northwood, N.H.	Northwood.
951	Mary L. Crager	13	Palmer	Palmer.
952	Carrie E. Adams	–	–	Skowhegan.
953	George Stone	19	Fall River	Palmer.

Admissions — Concluded.

No.	Supported by State.	In School or Workshop.	Admitted.
950	New Hampshire	School	Oct. 5.
951	Massachusetts	School	Oct. 14.
952	Maine	School	Nov. 4.
953	Massachusetts	School	Dec. 12.

Discharges.

No.	NAME.	Discharged.
808	Leo Cullen	Oct. 31.
869	Edward O'Neill	Sept. 28.
822	William Sevrance	Oct. 31.
708	Arthur C. Andrew	Oct. 31.
896	Redmond Geary	Oct. 31.
686	Idella Jennison	Oct. 31.
780	Emma J. Murdough	Oct. 31.
764	Alice Clark	Oct. 31.
759	Charlotte Hinman	Oct. 31.
679	Fannie Kimball	Oct. 31.
920	William C. Leavitt	Dec. 31.

[From the Forty-Seventh Annual Report of the Trustees.]

"General prosperity has attended the concerns of the Institution since our last report. Its course of usefulness has been uninterrupted; and we have good reason to believe that the favor with which it has so long been regarded by the community has continued undiminished. . . .

"As has been repeatedly stated in our annual reports, the establishment is purely an educational one. It constitutes an important link in the great chain of public schools, and aims at the intellectual and moral culture of the blind, and their social elevation. It proposes to teach them self-reliance, independence, manliness, pride of character, and the love of truth. Its system of education includes the development of all their powers, both mental and bodily, and the increase of their activity and manual dexterity. It intends to train them in various pursuits by means of which they may be able to earn a livelihood in these days when the struggle for life is so hard, and the law of the survival of the fittest is becoming very general. . . .

"The intellectual department has been greatly improved during the past year, and good progress has been made in its re-organization. The course of studies has been systematically arranged, and the standard of the acquirements of the pupils considerably raised."

INCOME OF MASSACHUSETTS SCHOOL–FUND.

Cash on hand, Jan. 1, 1878	$73,712 00
Income during year 1878	140,369 74
	$214,081 74
Paid to cities and towns in 1878	70,581 82
Educational expenses in 1878	63,790 94
	$134,372 76
Cash on hand Dec. 31, 1878	$79,708 98
From which there is to be paid cities and towns one-half income for 1878	71,749 96
Leaving for outstanding bills and return to fund . . .	$7,959 02
The Massachusetts school-fund amounted, Jan. 1, 1878, to	$2,067,790 54
There was paid to Swampscott in 1878	208 83
Amount of fund Dec. 31, 1878	$2,067,581 71

I beg leave to call attention to that part of the report of the Board of Education, which relates to the increase of the school-fund, State tax, &c.

In presenting this report I propose first, to give a brief account of the present condition of the public schools of the Commonwealth; secondly, to state what has been done the past year to improve them; and, thirdly, to suggest a change in the administration of our school affairs, by which better results may be hoped for than have yet been attained.

PRESENT CONDITION OF THE SCHOOLS.

There were last year, in the State, 5,730 public schools, with 310,181 pupils, taught by 8,508 different teachers. Included in the number of public schools are 216 high schools, having 595 teachers and 19,574 pupils. Over 90 per cent of the population of the State is in cities and towns having high schools.

There are also in the Commonwealth 399 private and parochial schools, with 15,540 pupils; and 64 academies, with 8,454 pupils. These numbers, added to the number in the public schools, make 334,175, — the number of pupils in the public schools, private schools, and academies, the last year. The enumeration of persons between the ages of 5 and 15 years was 297,202; and this number taken from the number in the schools (334,175) shows that 36,973 persons not included in the enumeration were in school.

The average length of the public schools for the last year was $8\frac{4}{5}$ months. The amount raised by local taxation for support of schools was $4,191,510.77; the amount appropriated by the towns from the income of funds for the same purpose was $60,833.58; the amount of voluntary contributions for board, fuel, &c., was $8,010.76; the amount received by the towns from the income of the School Fund was $70,430.65. Of the last amount $4,786.72 was expended for apparatus and books of reference, making the whole amount expended for public schools the last year, including only wages of teachers, board, fuel, care of fires and schoolrooms, $4,325,999.04. If the cost of superintendence and of printing reports be added, the sum becomes $4,553,160.84. If we add the cost of repairs of schoolhouses and of new ones, the amount expended the last year for the schools becomes $5,166,987.92.

If the $4,325,999.04, which includes only the current expenses of the schools for the year, had been equally distributed among the pupils attending the public schools, the rate for each child would have been $13.945.

Besides the public day-schools I have mentioned, there were last year in the State, 94 evening-schools, with 457 teachers and 11,717 pupils. As properly belonging to our system of public schools, may also be included our 6 normal schools, with 60 teachers and 1,226 pupils.

The schools of the Commonwealth are, on the whole, in a flourishing condition. Their excellence may be *inferred* from the amount of money expended for their support, from the per cent of attendance upon them, and from the great interest the people take in their welfare. It may be *known* from the results they have already produced.

If we turn our attention to the character of our civil institutions, or to the civilization of our people, as expressed in our institutions; if we compare our present with any period of our past, — we shall then be aware of what our system of public schools has done, and is doing, for the Commonwealth. Nowhere else can be found a people more refined in their sentiments or humane in their conduct. In no other State can be found more of that intelligence and spirit which are the foundations of a good social state. All this is due to that system of public instruction established by the Christian fathers in the first days of the Commonwealth, and through whose influence the people have been trained into a state of high civilization. Those who do not know by experience, or by a personal observation of our present social state, might infer, as has been inferred, from the statistics we furnish, that illiteracy and pauperism and crime abound with us, notwithstanding our people are reared under the influence of what we are pleased to call a model system of education, which all are compelled to accept as a free gift.

The statistics published express the truth, and express it fully and accurately; and it is due to their thoroughness and truthfulness that we are made to exhibit such strange phenomena to those who know us only by what we say of ourselves. These recorded facts express the truth to those only who come to them with an intelligent mind and an honest purpose. From all others they not only conceal the truth, but they seem to teach to them the absurdity that education is the producer of all those social evils it is especially designed and fitted to remove. It must be remembered, in discussing our social or educational condition, that Massachusetts is a manufacturing as well as an agricultural State, and that her manufacturing towns are filled, in some cases, with a population which has been poured into them from other lands. Some of these people are well trained and become ornaments to their new society; while many others, having never known the advantages of education, become, for a time at least, burdens upon us. They are too ignorant to think for themselves, and oftentimes too vicious to be subjects of self-control, or of that control which a civil State is able to exercise over its intelligent and virtuous citizens.

As a result, Massachusetts has within her borders a large number of persons who are ignorant and poor, some of whom are beyond the restraining power of civil or moral law.

As soon as these people become members of society, our compulsory and truant laws exert their beneficent power in putting every child between the ages of 7 and 14 years into the schools for at least 20 weeks of every school year. Those above 14 years of age have the free right to all our primary and secondary instruction, but there is no civil power to compel them to accept it. For all these causes, and on account of those providential reasons, that render it impossible for the schools to get hold of all those who should be reached, and to produce upon them such results as schools under favorable conditions are adapted to produce, we have among our population a large number of illiterate persons.

But of the native-born persons born also of native parents, there is less than one-half of one per cent who cannot read and write; and the native-born of native parents are those upon whom our schools have had a fair opportunity to produce their legitimate effects.

Subtract from the one-half per cent, the number of feeble-minded children in the State, and of those who are physically unable to attend school, and native illiteracy is reduced by the statistics, as those who are personally acquainted with our society know it is in fact, to a comparatively small amount.

While it is true that our school system has provided free education for all, and has gathered those who are legal subjects of school training quite generally into the schools, and has reduced the amount of illiteracy among both the foreign and native-born population of the State in proportion to their school attendance, still it is said, that from the statistics we furnish, our pauperism and crime do not seem to be correspondingly reduced.

Our census reports relating to poverty and crime are to be interpreted with the same intelligence and spirit, and by the same method, employed in accounting for our ignorance.

If they are thus interpreted, it will be found that our ignorant class furnishes a very large per cent of our paupers and our criminals. The causes of this fact are plain. "Ignorance unfits a man for earning his daily bread, and in most cases dooms him to poverty; the want of intellectual culture is, moreover, generally attended with a lack of feeling of self-respect and moral responsibility, thus leaving the victim an easy prey to the many temptations which society presents."

That education is a force furnishing its possessor with the ability to provide for himself, restraining him from violence of all kinds, is established by reason and by the results our schools are producing upon those who are subjected to their influences. For a further discussion of this subject, reference may be made to an able explanation of our social statistics, made by Col. Carroll D. Wright, Chief of the Labor Bureau, and to be found in Appendix (B) of this report.

Although our schools, established in the first days of the Commonwealth, have laid the foundations for a perfect social State, still as knowledge, and a desire for better things than now exist, increase, we find that our present system of instruction needs to be subjected to reformation. The reformation should commence with modifying our common-school courses of studies, so as to adapt them to the wants of the mind as its powers are developed, and so as to satisfy the demands of practical life. After all the study hitherto given, no satisfactory course of studies yet exists.

At the same time that a true philosophy is reforming our courses of study, there should be introduced into the schools better trained teachers. The teachers of the State are, on the whole, an able body of faithful men and women; but there are many in the schools who do not abound in those natural and acquired gifts that make a complete teacher. The demand is not yet urgent enough to call the best talent in the State into the profession. Until this is done, the schools will not produce the best results of which they are capable, as it is impossible to accomplish by any other agency that which the teachers are appointed to do. The economical spirit that has taken possession of the people has led them to reduce appropriations for the schools, and, in some cases, to their great injury. Not only has the time of the schools, in many towns, been shortened, and the salaries of the teachers been cut down, but in many cases new and cheaper teachers have been substituted for those of experience and skill. This change will be likely to inflict an immediate injury upon the schools by the employment of inferior teachers, and it will have a tendency to produce a permanent one by discouraging the best talent from ever entering the profession.

The old methods of teaching are still generally practised. Lessons to be committed to memory are still assigned from books; and then the teacher, by question and answer, conducts the recitation.

The mischief of this method is found in the fact that it makes words, which, at best, are but signs of ideas, to be the original sources of knowledge; it prevents the pupil from such an exercise of his mind, on what should be the true object of his thought, as alone leads to mental training.

The results of such teaching are to make pupils familiar with the forms of words, but strangers to their meaning; it fills their minds with what is called language, but it does not train them to think, nor to any good method of thinking, so that when they leave the schools they have but little acquired power to perform well the duties even of practical life, and men say the schools do not teach practical knowledge.

The graduates of our normal and training schools, the interest awakened by our State teachers' institutes, and the directing power of our educated school superintendents, have done much towards breaking up this unnatural method of using words unassociated with the ideas the words represent. Oral and objective teaching, in connection with books used as reference-books, is slowly taking the place of what may be called written teaching. The principle that teaching consists in actually presenting to the learner what he is to study, is beginning to be that upon which our modern method of teaching is founded.

True oral teaching implies, first, a thorough and independent knowledge of the objects and subjects to be taught; second, a thorough knowledge of the laws of the human mind, which control it in the acquisition of knowledge; and, third, a complete knowledge of what constitutes a good method of thinking.

In addition to the knowledge required, the teacher must have had a successful experience in oral teaching before he can apply his art with success.

Successful oral teaching does not consist in talking or lecturing, or explaining, or in pouring knowledge into the mind of the pupil in any way, but in simply establishing such relations between the pupil and the object of his study as will enable him to gain knowledge for himself by the exertion of his own mental power. On account of what is required, the number of perfect teachers in the Commonwealth is not large, and the profession will not soon be overcrowded with them.

Our common schools are not well supplied with the means of teaching. A law of the mind, that controls it in its acquisition of knowledge, renders it necessary to bring into the presence of the pupils objects of knowledge, or good representations of them. Those things which cannot be presented to the mind cannot be known in themselves, but some of their relations may be learned by means of good illustrations. Our schools should be well supplied with apparatus and with natural objects, to be used as the means of teaching: they are, for the most part, barren of these things.

Notwithstanding the imperfections found in the present state of our schools, the school authorities, the teachers, and the people themselves were never more in earnest for improvement; and they all seem ready to enter, with a good spirit, into any labor that has progress in our educational affairs for its object.

With such a spirit pervading the Commonwealth, we are encouraged to hope for the best results. This leads me to speak of what the Board, through its agents, has done the past year to improve the schools.

Agents of the Board.

The work of the agents of the Board, Messrs. G. A. Walton and E. A. Hubbard, has been, to some extent, different from that of previous years.

Heretofore they have spent most of their time in visiting the schools of the towns for inspection and suggestion. In addition to these visits, they have organized during the past year a large number of meetings for teachers, school committees, and interested citizens. Besides these meetings, they have held a much larger number of teachers' institutes than usual in other years.

In visiting schools, organizing teachers' and committee meetings, and in holding teachers' institutes, their time has been fully occupied with the most laborious service. Many of these meetings, and all of these institutes, I have attended; and the service of the agents, and my own when I could be absent from the office, have been so similar in character, and we have been so much together, that it seems proper to include an account of their labors in my report.

TEACHERS' INSTITUTES.

Teachers' institutes, commencing Sept. 4, and ending Nov. 16, were held in the following named towns: —

Rutland	Worcester County.
Ashland	Middlesex "
Winchendon	Worcester "
Westford	Middlesex "
Lawrence	Essex "
Gloucester	Essex "
Hyannis	Barnstable "
Peru	Berkshire "
Monterey	Berkshire "
Whately	Franklin "
Uxbridge	Worcester "
Weymouth	Norfolk "

From the list given above it will be seen, that, in 7 of the 14 counties of the State, institutes were held; and the records show that 82 towns were represented in them by 1,215 members.

In addition to the members, a large number of citizens, especially of the towns in which the institutes were held, became interested in them, and were in constant attendance.

The policy of organizing small institutes was adopted, for two reasons: First, it seemed desirable to visit small towns; if this was done, entertainment could not be furnished to large numbers. Second, it is impossible, with a large attendance, to make the institute work resemble that of a school. The number of towns invited to attend each of the institutes has varied from 5 to 8, — in no case exceeding the latter number. The smallest number registered as members was 50, at Rutland; the largest 222, at Lawrence; and the average number attending the 12 institutes was 101. In accordance with the policy adopted, 4 of the institutes were held in the small towns of Ashland, Whately, Monterey, and Peru. In no one of them had an institute ever been held before. There had been none at Rutland for 23 years; none at Hyannis for 22; and in only one of the 12 towns, in which they were held the past year, had there been an institute for the last decade. At every institute, both the day-teaching exercises and the evening lectures were attended by large and interested audiences of teachers and citizens. The lectures given were, in a sense, popular, but they all had a direct educational bearing. They were such as to give valuable information with reference to our school system and school laws, and to awaken a deep interest in the education of the youth of the Commonwealth.

Mr. Hubbard organized 6 of the 12 institutes, and Mr. Walton the other 6.

The preliminary arrangements required time and labor. Not only must the town in which the institute is to be held be visited, but also the neighboring towns whose teachers are to be invited; that the committee may be notified of the meeting, and impressed with the importance of securing a prompt and continued attendance of all their teachers. The nature of the exercises given is doubtless well understood, and need not be here explained: their object has been to show a method of teaching the various topics taught in the schools, and to make application of the method by teaching a class in the presence of the institute. Actual teaching has been substituted for talking and lecturing. A portion of each day-session and evening hour has been devoted to asking and answering questions proposed by the teachers, and others interested in the topics discussed.

The length of the meetings has been limited this year to two days each, with two or three evening lectures. This reduction of the time usually occupied has made the entertainment of the teachers less burdensome, and has made the school-committees more willing to suspend their schools. It has given a more uniform attendance, with less interruption from large accessions to the institutes on the last day of their session, and has enabled the Board to hold more in number, and thus more directly to affect a larger number of towns. The exercises, by the instructors, were distributed as follows:—

Language, grammar, and composition	15	lessons.
Reading and vocal culture	26	"
Arithmetic and form	19	"
Geography and history	38	"
Mineralogy	6	"

Penmanship	12	lessons.
Drawing	12	"
Vocal music	6	"
Principles of teaching and school management	18	"
Lectures of a general character	26	
Total	178	

Of these 78 were given by persons employed for special service, 4 by teachers of the normal schools, and 96 by the secretary and agents of the Board.

The persons employed for special service, lecturers and teachers, were Rev. A. D. Mayo, Professor William H. Niles, Rev. H. G. Spaulding, Mr. Frank A. Hill, Mr. J. S. Diller, Mr. H. E. Holt, Mr. C. M. Carter, Mr. L. W. Mason, and Mrs. E. N. L. Walton. The teachers of the normal schools who assisted were Dr. D. B. Hagar, A. G. Boyden, A.M., and J. G. Scott, A.M. To avoid interruption and loss to classes in the normal schools, the demands made upon their teachers have been less than formerly; though the assistance asked has been most cheerfully given, and the service rendered has been highly appreciated.

Free return tickets over several of the railroads have been generously granted by the officers of the roads; and courtesies without limit have been extended by school committees and citizens of the towns where the institutes have been held. I desire in a public manner to express thanks for these favors and for that cordial co-operation of citizens, school-committees, and teachers, with the Board, which has done so much to make our institutes agreeable and successful.

Horace Mann, in his eighth annual report, the report for 1844, while urging upon the State to use all practicable means by which the qualifications of teachers can be increased, speaks of teachers' institutes as an expedient which has been adopted in the State of New York for two or three years past, and which has proved eminently successful. He unfolded the plan of them, setting forth their object and their promise of good; and he pressed the subject upon the attention of the legislature. Nor did he stop with his efforts to secure favorable legislation; for, in his report made the next year, we find him saying, "Early last summer, upon explaining to that liberal and well-known friend of our common schools, the Hon. Edmund Dwight, the advantages which might arise from holding teachers' institutes in Massachusetts, he generously placed at my disposal the sum of one thousand dollars, to be expended in such a manner as might be deemed most expedient for promoting the object. As a result, in 1845 four institutes were held, — one at Pittsfield, one at Fitchburg, one at Bridgewater, and one at Chatham."

In the 33 years since that time, 1845 not included, 272 have been held in 158 towns. The number of teachers in attendance has been 34,490. The annual expense of the institutes till 1874 was $2,545; for the last four years it was only $1,048, while the number held was as great as before. For the last two years, the greater part of the institute exercises have been conducted by the secretary and agents of the Board, and fewer special teachers have been employed. The general purpose of the institutes in all these years has been the same, — to aid the teachers in their work by illustrating to them better methods of teaching, and better plans of school organization.

As the school-teachers of the State have improved themselves from year to year, the instruction in the institutes has changed to meet new demands, but their purpose has remained the same. They were never before so largely attended as were the nine of 1877; and, though by design they were made smaller in 1878, the interest and enthusiasm excited were never greater than by those just closed.

The institutes of these years have furnished the teachers with an opportunity of comparing their methods of teaching, of learning new and better methods, of breaking away for a little while from their round of daily duties, of coming into companionship and sympathy with others of their own profession, and of returning home with higher notions and better purposes.

The agents and myself have attended many of the meetings of the county teachers' associations, reading lectures or papers, taking part in the discussions, and contributing to the interest of the meetings in whatever way we might be able.

In some cases the association has practically resolved itself into a teachers' institute during a part of its sessions: at that time the secretary and his helpers have given such exercises as they have been accustomed to give at the regular institutes.

As a result of the State institutes, school-committee meetings, town institutes, and county associations, there has been awakened in the Commonwealth a great interest in the study for better methods of teaching, and for improvement in all that which pertains to the teacher's work.

Reference was made in the report of last year to the organization of school-committee associations. Four had then been formed. Since that report was written, four others have been organized; and all are doing good work for their members and for the schools over which the members hold authority. These associations mark a new era in our common-school affairs.

For many years there had been associations of teachers, town, county, state, and national. Twice in the year the superintendents of schools in the New-England States had met in Boston to discuss questions of vital importance to the schools under their charge; but never till within two years had the school committees of the towns met in convention for the purpose of discussing those topics that pertain to their own duties.

In their meetings, the school committees discuss questions and topics in a most practical manner. Holding a close relation to the people, as well as to the schools, they know the sentiments of the one and the wants of the other, and are in close sympathy with both. The school committees of the Commonwealth are now discussing the following topics: —

"The Union of Towns for the Purpose of establishing Truant Schools," "Truant Legislation," "School Visitation and Inspection," "Methods of selecting and examining Teachers," "Course of Studies for the Different Grades of Common Schools," "Methods of Teaching," "A Uniform Record of Attendance."

As a result of these discussions, courses of studies have been made out, and put into use; inquiries concerning the results the schools are accomplishing have been instituted; a system of examinations of the schools of a section has been organized; and a new impulse has been given to the internal work of our schools, which promises the most gratifying results.

The agents of the Board, now thoroughly acquainted with their great field of labor, and with the labor itself, have done a work the past year, for the Commonwealth, that can hardly be exceeded either in amount or quality. As both these gentlemen have been successful teachers, and one a successful superintendent of schools, they are pre-eminently fitted by their learning and experience to do just the work the Board has committed to their hands. Their services have everywhere been received with great favor; and they have already produced a marked effect on the schools of the State by the improved methods they have aided in introducing.

Invitations are constantly coming to them from school committees and superintendents of schools, to visit the towns for the purpose of giving counsel and instruction.

Although the statutes of the Commonwealth require schools to be maintained, and enforce their commands in some cases with threatened penalties, still obedience to the laws is largely voluntary, and some of the best service in the cause of education is voluntarily rendered. The agents have done much towards awakening that voluntary spirit which must ever be the soul of true and permanent educational progress in a free state.

CHANGES DEMANDED.

Superintendence.

Success in the application of any plan of labor, mental or physical, requires unity of action. If the labor is performed by many agents, unity of action is possible only so far as the many are brought under the direction of one controlling power. Upon this principle is founded the philosophy of superintendence in the various departments of human labor. The necessity and economy of an efficient supervision is nowhere more apparent than when considered in connection with the public schools of a country. There is not an educator, whose opinion has any part in forming that concurrent opinion which must be taken as a rule of action, who does not advocate a thorough and universal system of school supervision. The question, therefore, whether or not such a system should be established, need not be discussed. The system is already established; and so universally does it prevail, that there is not a public school in the land that is not shaped or affected in some way by an authorized supervision. But as there are now many in this country holding authority over the schools, who have neither the time nor the opportunity to know what are the requisites of a good school, and to establish the necessary conditions to its existence, the supervision we have is not always intelligent in its kind, nor systematic in its application.

From a knowledge of these facts there may arise two questions: —

1st, What kind of superintendence do the schools demand?

2d, How shall the right kind be obtained?

And, first, the schools need a superintendence that shall accurately determine how many of them a town can with the best results maintain. Great waste will follow if the number be too many or too few. In the first case, the teacher must be of the cheaper kind, and the schools must be short: in the second case, the work will be so great in amount that thorough teaching is impossible. There are towns in this Commonwealth where schools are supported for from three to eight children; and the authorities of the town, and the parents of the children, are in many cases to be persuaded that it is a wise economy to pay money for the transportation of children over the country far enough to reach a good school, rather than subject them to the unmeasured personal loss they must inevitably experience from a poor one, though it is found at their door. In other towns there are schools with seventy, eighty, or even ninety children, under the care, we can hardly say under the instruction, of a single teacher; and the town authorities and the tax-payers need to be persuaded that it is poor economy, in order to save the expense of another school, to subject themselves to the utter waste of the money expended on the one now maintained, and the children to the irreparable loss of time and opportunity for proper instruction.

Another answer to the question may be: Such a superintendence as will secure a proper grading of the schools. The schools are to be graded, not according to age, nor height, nor race, nor the accidents of birth and wealth, nor wholly according to any visible standard which the unlearned as well as the learned may see with their physical sight, but according to the power and training of the minds of those who are to be classified. These marks are invisible except to those who have made them an object of special study. They are invisible to the many; but they are of more importance in the classification than the possession of mere information, or the ability to repeat accurately words that have been committed to memory.

But not only must the number of schools be determined, and the pupils in them be arranged in classes according to their ability to learn, but proper courses of studies must be constructed; and there is need of such superintendence as shall be wise enough to construct them. These courses must be so made that the pupils may have presented to them appropriate and orderly topics of study. A good course of studies is the product of wisdom and experience. To produce such a course, one must understand the modes and the order of activity the mind is able to exert, and the proper objects of thought to present as occasions for the different activities the mind produces as its powers unfold themselves. He must also understand the relations elementary holds to scientific knowledge, and the effect that the pursuit of any branch of study will have on the character of the mind, in leading it toward the state called education. With all this knowledge in mind, and with a successful experience in applying it, a course of studies may be made which will call the mind to such an exertion of its powers as to furnish it with useful information and with practical training. If this work is done by those who think that the term "practical" applies to knowledge only, or that the pursuit of ornamental branches of study is not as necessary to the future well-being of the scholar as the pursuit of those branches which relate to the physical necessities of life, then the work in the schools will be degraded, by directing it all toward the accomplishment of an inferior end.

No one but an intelligent educator would be likely to introduce, into a course of studies to be taught in a common school, any branch of learning that does not offer such information as man, considered to be a physical being merely, would need to know. If the aims of our schools are low, it is because those who have authority to give to them their character are not aware that the ability to provide for personal wants, to perform well the duties of private and public life, and to secure for one's self the best ends the human mind is capable of choosing, is not the result of mere information of any kind, but of that training of the mind which the pursuit of a well-chosen and rightly arranged course of studies is adapted to produce.

The value of a topic of study depends upon two things: 1st, upon its relations to the mind, by which it awakens such a vigorous and prolonged activity as will result in a right mental development. 2d, Upon its relations to other topics, by which it furnishes that elementary knowledge which is necessary to the acquisition of other knowledge. The intensity of activity awakened by an object of thought will depend on its adaptation to occasion such knowledge as is interesting and necessary for the mind to know. The duration of it will be modified by the amount of new knowledge the topic offers as a reward for study. All these things must be considered in choosing the topics that are allowed to enter into a course of studies. Then, after the choice is made, the topics chosen are to be arranged in the course so as to meet the wants of the mind as its powers are developed, and so that the student will be permitted to master the elements of a science before he is required to master the science itself. Not much of all this work is now done for our common schools. It never will be done until the supervision of the internal work of the schools is committed to educated men, and to those whose duty it is to give their entire time to school affairs.

Not only must the school superintendence secure a proper course of studies, but it must also direct the teacher to the best method of teaching the branches of study constructed into the course. A method is the way of doing any thing. There are two methods of teaching. One establishes such relations between the learner and the objects of his study, as render the acquisition of knowledge possible, and mental training the sure result of the activity exerted in acquiring knowledge. The other, ignoring the laws of the mind, and the true end to strive for as the result of study, violates all the principles of teaching, puts the mental powers of the pupil to sleep, and creates an abiding distaste for study. It is said by many who fancy they are contending for freedom from those artificial formalities which arise from a blind following of artificial rules, that methods must have their origin in the minds of those who use them, or they will be mechanical and unnatural. The saying expresses much that is true, but more that is false. As the mind is the object to be taught, the principles of teaching must be found in the nature of the mind. If ideas are awakened for the first time only by the presence of their objects; if the teaching of language implies the previous teaching of all that language expresses; if mental training is an effect whose only cause is the right exertion of mental power; if the human mind in all its acts and in all its growth is subject to immutable laws, — then a true method of teaching is not an invention to be made by every teacher for himself, but a discovery to be found only by those who study for the principles upon which a rational method must be founded. A method of teaching taken on from the outside, as is done by mere imitators, or a method that is communicated from one mind to another directly, without reference to principles, as is done by those trained and taught in some of our training schools, is liable to degenerate into an empty formality. On the other hand, a method founded on the known laws of the mind, although as fixed and philosophical as the laws themselves, yet in its application will furnish an abundant opportunity for the free exercise of an inventive genius. In teaching, there will always be occasions for native genius and acquired skill to express themselves in contriving new means of illustration, in obtaining and preparing objects of study, and in all that which may be classed under the general head of *manner*. Two teachers using the same method will differ widely in their manner. One will burden his teaching with many words, and awaken more ideas than his pupil can convert into knowledge: the other will endeavor to conceal himself as much as possible, doing no more than is necessary to direct the mind of the learner in the investigation of the object of his study. One will teach with his mind wholly absorbed in the subject he is presenting: the other will give constant attention to the individual wants of him who is taught.

We must not hope for a radical change in the present methods of teaching, if there is no outside demand for it; nor must we hope for an intelligent demand, except it shall first be made by educated men, and by those educated men who have been set apart and commissioned to study teaching for its philosophy and its methods.

But the external conditions of a good school may all be supplied, and the school itself still have no existence; the good teacher may be wanting. The schools demand a superintendence which shall secure good teachers. Until the good teacher appears, all hope for good educational results will be disappointed. There are four kinds of causes that contribute to the production of a school: —

1st, There is the material cause, consisting of pupils and the means employed in teaching.

2d, The formal cause, or the plan in accordance with which the school is to be organized, the course of studies made out, and the methods of teaching determined.

3d, The final cause, or the reason why the school should exist.

4th, The efficient cause, or the teacher who produces the school itself.

It is because the teacher produces the institution called the school, and makes it accord with his own character and conduct, that he should not be wanting in natural gifts or in culture. By natural gifts are meant those perfect qualities of body and mind that Nature is ever ready to bestow upon those who obey her laws. A teacher should have a sound body; for the body is the instrument the mind uses in forming its mental states, and in expressing them to others. Some teachers do their work well in spite of physical weakness, never on account of it. Physical strength is necessary, that the teacher may never grow weary in studying for new knowledge, in practising his art by himself for that facility that never comes to a teacher without practice, and in doing personal work for those who are less able than their companions to help themselves. Physical health and strength are necessary conditions also for that cheerful, hopeful temper which enables its possessor to judge correctly, and to treat generously, all those under control.

No one is fit to take any part in moulding the character of the young, who is not predisposed to look into their minds for beauty rather than for deformity, and who has not an abiding faith in the good results of proper training.

Poor health is frequently the occasion of those impulsive judgments and irrational acts that require apologies before a feeling of injured innocence can be removed, or a reputation for impartial justice be established. Apologies should be made whenever there is a necessity for them; but the *necessity* generally destroys all confidence in one's ability to control himself, or to become a reliable guide for others.

To the gift of a good body there should be added that of a good mind. Culture can do much towards perfecting those good mental qualities that are necessary for a teacher to possess; but the germs of these qualities must exist, if they exist at all, as the products of a direct creation. Common sense is a gift, not an acquisition; but without it, knowledge seems to increase the tendency to mistakes, and experience only convinces one of the impossibility of success.

Tact, faith, perseverance, natural refinement of spirit, and the enthusiasm that arises from the conscious ability to know beforehand what will take place, are necessary to success; but the germs of these things are born with us, and they develop into strength of themselves, without ever being the direct object of culture.

While this is true, the teacher must abound in acquisitions as well as in gifts. Physical strength may furnish the conditions for endurance, a good mind the power to act, and a good instinct those natural impulses that sometimes take the place of rational motives; but teaching is both a science and an art, to be learned and practised as are any other science and art. The teacher is not ready to take the first step in the practice of his art until he knows the science upon which the art is founded. A knowledge of teaching, as a science, implies a knowledge of the mind, the object to be trained; of all those objects of thought which are to be presented to the mind, to awaken its activity; and of the true end the teaching should have a tendency to secure. From a knowledge of the science may be derived a knowledge of the art of teaching.

This knowledge relates to the topics to be taught, to their arrangement in courses of studies, and to methods of teaching. It may also include a knowledge of the means to be used as occasions for knowledge.

To the knowledge of the science and art of teaching, the teacher must add a successful experience in applying the art, and then he will have a right to expect good results from his work.

Good teachers are to be discovered by examination, — not an examination in a narrow, technical sense, a mere inquiry into their literary qualifications, but one that shall test them in all the qualities named, and even more; and therefore a careful and thorough examination of teachers is included in the superintendence which the schools demand. But who is able to examine so as to discover the good teacher?

It will be at once seen that they only who know the gifts and acquisitions that constitute a good teacher have the power; and only those who have themselves the requisites can know them. What can be more unphilosophical than to put one who does not know what it is to be a good teacher, to examining a candidate to see if he is well fitted by nature and by training to teach? There is no other instance of such conduct in all the affairs of men. The ability to tell the length of a river, or the height of a mountain, or to solve a problem, or to write a sentence, or to repeat a rule, is not satisfactory evidence of ability to teach. I have known a teacher answer all such questions, and then fail utterly in his work. I have known another who failed somewhat in his answers to technical questions, who was a good teacher, after all. Many are now masters of our schools, who were introduced to them without any examination which presented a fair test of their ability to teach, and many others without any examination at all. As a result many of our schools are afflicted with incompetent teachers. I do not know of any sure way by which one can show to another his ability to teach, except by teaching in his presence. That is the only test that will meet the demands of the schools, or will satisfy an expert who has had experience in selecting teachers for his schools. One of the most important results that will follow the securing of competent supervision for all the schools is the introduction into them of such teachers only as have the ability to teach. With poor teachers nothing but mischief will be produced. An intelligent and vigorous supervision is the only agency that can prevent the mischief, and so control public sentiment as to render the employment of poor teachers impossible.

But after the good teacher has been selected, examined, and installed, he must be kept from falling out of the true way by the friendly guidance and co-operation of one who knows by education and experience what are the ways to the best educational results; and therefore the superintendence required must be intelligent, constant, and sympathetic. No other one but an educator knows what he sees and hears when he enters a schoolroom. It requires an educator's eye to see a school as it is. To one ignorant of the philosophy of school work, quiet in the schoolroom may be referred to good government as the cause; while it may be due to the stupidity of the pupils, or to those influences that are crushing out the best life of their minds. What appears to be a wonderful recitation to an uninitiated observer, will to a wise one show how much time has been worse than wasted in committing to memory words that have no ideas attached to them, or in attempting to master what the mind of the learner is not yet prepared to comprehend, or what is useless for him to know.

It requires a trained educator to see what he looks upon as he visits a schoolroom, and a trained educator to make just criticisms and to show a better way.

We complain of waste in our schools, and of poor results; but we are powerless to prevent either, because we are wanting in those agencies that know enough and have power enough to search out and remove the cause of them.

Again, the teacher must be supplied with the means of teaching before good results are possible. Books abound in most schools, but there are generally wanting natural objects and all means of illustrating the topics that are assigned for study.

There results from this want, a failure on the part of the pupil to acquire knowledge or training or a method of study, such as the presence of objects of study, rather than the signs of them, always produces. An intelligent supervision will put a stop, first of all, to that style of teaching which requires the mind of the learner to violate its own laws of activity.

I have thus considered the first question, What kind of superintendence do the schools demand? and will now turn to the second, How can the right kind be obtained?

The control of the public schools is placed by statute in the hands of the school committees of the several towns of the Commonwealth, and it should never be taken from them. Provision is made for superintendents of schools, but they are to be subject to the school committee. The statute reads, "Any town by legal vote, and any city by an ordinance of the city council, may require the school committee annually to appoint a superintendent of public schools, who under the direction and control of said committee shall have the care and supervision of the schools." This gives the voters of a town and the city council of a city the power to "require the school committee to appoint a superintendent;" but, if the committee refuse, as is sometimes done, there is no redress. The statute provides also that "the school committee of any city may appoint and fix the compensation of a superintendent of public schools" by a majority vote of the whole board. It also provides that "any two or more towns may, by a vote of each, form a district for the purpose of employing a superintendent of public schools therein, who shall perform in each town the duties prescribed by law." About forty municipalities of the Commonwealth have superintendents of schools, and the universal testimony is that the schools have been greatly advanced by the appointment. This leaves three hundred towns, more or less, whose schools have no other supervision than such as the school committees can furnish. Can the school committees, as such, meet the demand of the schools for supervision? I think not. By this I do not mean to say, or to intimate, that there may not be, or that there are not, members of the school committee, men of education, of experience as teachers, men naturally adapted to the work, who could do it, and do it well. There have been in the past, as there are now, instances in which such service has been rendered by some one of the committee, more commonly the chairman, and the condition of the schools has been good, and the advantage great. But in these cases the supervision has not been by the committee as a whole, but by some one of them, who, though not nominally a superintendent, has virtually been; and so it has been by one controlling mind and heart, rather than by the combined action of several. But I do mean to say that the school committees of the several towns, composed as they must be of three persons, or some multiple of three, numbering sometimes eighteen or twenty-four, each compelled to meet the demands of his own business or profession, with his thoughts necessarily, naturally, and properly engrossed by his own affairs, cannot give, nor be expected to give, the time for study and observation requisite for successful supervision. But if each of the eighteen or more members of the committee were possessed of the requisite endowments, natural and acquired, for the desired supervision; if each had the leisure for the work, and the disposition to do it, — with so large a number of persons, unity of action would be impossible, and the danger would be of too much and too discordant supervision.

Moreover, in many of the smaller towns the relation of the members of the committee to the town, or to the district, or to the prudential committee of the district, where the district system still prevails, is such that, granting the qualifications of the committee, they are unwilling to take the responsibility, and subject themselves to the consequences, of a faithful performance of the duties of school supervisor. They may be pastors of weak churches, and be unwilling to subject themselves to the jealousy that weakness naturally begets, and to the liability to loss of influence and it may be of place. Hence it is not uncommon for a clergyman, often the best educated, sometimes the only liberally educated man in the town, to decline a place on the school board; and ministers at their ordinations are "charged" not to serve on the school committee.

If, then, it be true that the school committees cannot give that careful, intelligent, and constant supervision to the schools which they demand, what can be done to supply the want?

We must select a body of men fitted by a special preparation for their work, who shall give their time and strength to educational affairs, and in whom the people can trust for those opinions which none but educators have the ability to originate.

We must put them to studying for progress and improvement; to exercising their skill in expending money, so that we may receive a return for what we pay, so that the children of the State may be subjected to a proper training during that period of their lives when character is formed and human destiny is determined.

We must place our schools under educated supervision if we would have them stand high enough in public estimation to insure a cordial support, and to secure an attendance upon them by the children of all classes of our citizens; so that our people will grow up to think alike and act alike, and caste-distinction, that insidious foe to all republican institutions, will find no place in our American society.

We must have educated superintendence if we ever succeed in preventing that waste we now suffer from too small or too large schools, from improper grading, from improper courses of studies, from unphilosophical methods of teaching, from poor teachers, from a lack of means of teaching, and from non-attendance.

We must have our schools organized and directed by educators, that we may save them from being condemned and neglected; that the children of the State may not be allowed to pass unimproved the portion of their young lives allotted to them for obtaining that culture which lies at the foundation of a good private and public life.

There is a tendency in modern times to separate the æsthetical and moral from other forms of culture in the public schools, for it is said that the State has no right to furnish the children of the State with any training which does not have for its object the ability to live successfully their physical lives. They would limit the culture of the imagination and the taste to those fortunate ones who can secure it for themselves by private means; and the training of the conscience they would leave to home-influences and to the teachings of the Church. Such sentiments have a tendency to degrade the public schools, and to divert them from pursuing the very ends they were established to attain.

The public schools were established, that they might train the youth to be good citizens. To be a good citizen, implies the possession of all the virtues that elevate the mind and adorn the character. All states and nations that omit from their systems of culture the training which addresses itself to the emotional nature are rude and uncivilized.

The omission of the moral element from the public instruction of the children of a state will soon produce a state not worth preserving. I have no hope of preserving and promoting the refinements and the Christianity of our education, except we put the superintendence of our schools into the hands of those who have made education in all its relations a careful and successful study.

Nothing but a thorough study and understanding of the philosophy of education will ever preserve our schools from that degradation which must come if the refinements and the Christianity of culture are banished from them. Our schools have no meaning except as they are considered to be institutions for the formation of character. The educators of the State and all the citizens should labor together to find a way by which the school authorities may all be provided with skilled agents to assist them in the management of our school affairs.

To accomplish this, provision should be made: —

1, For dividing that portion of the State not now supplied with superintendents into sections of sufficient size to furnish a proper amount of work and an easy support to one superintendent each.

2. Provision should be made for electing these officers, for fixing their salaries, for distributing the amount of service to be rendered to each town of a district, and the portion of the superintendent's salary each town shall pay.

3. The qualifications a candidate for the office of superintendent must possess must also be determined, as well as his tenure of office. Let these officers quite generally be selected from the number of those who have proved themselves to be conscientious and successful teachers; let them be properly paid and retained quietly and permanently in their places, so that they will be encouraged to give their intellects and their souls to the

work; and then, without much chance of failure, our school committees will be furnished with such agents as alone are able to superintend successfully our public schools, and lead them to produce the best results of which they are capable.

4. The employment of a sufficient number of superintendents to superintend all the schools must be made compulsory.

The demand for an educated supervision of the schools is imperative, and we have no reason to hope for great and good results until it exists. When this supervision is established, Massachusetts will have one of the best systems of common schools to be found in the world.

The schools may attempt to secure for their pupils any one or all of three ends.

These ends are knowledge, a good method of thinking and acting, and mental culture. Knowledge and a good method are useful acquisitions; mental culture is a good in itself.

The schools cannot teach a large amount of knowledge to the pupil, even if he remains in them until he has passed through all the grades from the elementary school to the university; and then the knowledge acquired is of little value unless the mind possessing it is trained to use it in accordance with a good method. A method is of no consequence considered apart from a mind that is to be trained, or from the knowledge that may be acquired by its use.

Mental training, then, is the only end that can be obtained in school, which may be known as a good in itself.

But this end cannot be secured without securing the other two: and yet these two are to be held as subordinates, bearing the relation of means to an end, rather than holding the rank of ends themselves.

The development of the mind is measured by the facility it has for exerting any kind of activity. The facility is acquired by a continued doing what one would acquire a facility for doing.

Knowledge is useful, because it not only excites the mind to activity, but it directs activity towards right results. Activity is useful, because it produces knowledge and mental growth.

We know by observation and experience that mental development does not exist, necessarily, in proportion to the amount of knowledge acquired. Then, in determining what shall be done in the schools to secure the end that is to be sought, we shall not find it necessary to arrange for any definite amount of knowledge to be taught and learned. We shall rather turn our attention to those conditions and causes which must exist that what we have called the end of school work may exist.

The amount of mental discipline acquired will depend upon two things: first, upon the kind of mental activity exerted; second, upon the degree of it. The kind of activity exercised will depend upon the kind of knowledge taught and studied, and upon the method of instruction employed. The degree of activity will depend upon the success the mind experiences in acquiring knowledge by study, and upon the emotions the knowledge acquired has a tendency to produce.

We should aim in our schools to teach that kind of knowledge which will awaken the mind to such kinds of activity as are necessary to its growth, and to teach in such a manner as will enable the mind to thoroughly master what is taught. That is, the schools should teach in accordance with a good method, so that those who are taught may acquire knowledge, a good method of study for future use, and that which should be sought as the end, — mental training.

The changes needed call our attention to our course of studies. These changes have reference first to the branches that should be introduced into the course. What shall be taught? is the first question to be answered by one who would make out a philosophical course of studies; and the true answer will be: Teach those topics that will occasion that varied activity necessary to mental training. We may be assured that these topics will include all that knowledge which it is necessary the mind should have.

The changes have reference, second, to the size of the courses. The number of branches now taught may not be too many, but the amount of facts attempted to be taught under each branch is too large. The quantity of arithmetic, geography, grammar, &c., taught, should be less. Teach such knowledge, and so much of it, as is necessary to communicate a method of studying that kind of knowledge, and to enable the pupil to apply the method; then pass on, leaving the pupil to work out for himself in the future what remains that is necessary or desirable to be known or done. Third, the topics selected for the course should be arranged with reference to their dependence upon one another. Every scientific study should be preceded by its corresponding elementary study. Fourth, the kind of knowledge taught at any particular time in the student's course, should be determined by the acquisitions he has already made of knowledge and of mental training.

With these general suggestions upon the necessary changes in the schools, I will state more specifically the essentials of an

ELEMENTARY COURSE OF STUDIES.

There are two kinds of objects of thought. One, as a plant, exists apart from any mind that thinks of it, and is an external object. The other, as a thought, exists only in the mind, and is an internal object. The first may be called an object, the second a subject, of thought.

Study is a prolonged thinking of any object or subject of thought. *A* study is any one of these objects or subjects.

The term "study" applies to a manner of thinking; "*a* study," to any object of thought.

A course of study would include, first, all those forms of thinking that the mind produces, as it perceives, remembers, imagines, generalizes, and reasons; and, second, such an arrangement of these forms as corresponds to the order in which they naturally occur as the mental powers are developed.

A course of *studies* should comprise a collection and arrangement of those objects and subjects of thought which are adapted to furnish the best occasions for a course of study, or for all those forms of activity the intellect is capable of exerting. From what has been said, it will appear that a plan for a course of studies should be derived from a knowledge of the mind that is to be informed and trained by its use, and from a knowledge of the end the schools should endeavor to secure for their pupils.

The first form of activity the young mind exerts is that which produces sensations and perceptions. The external condition necessary for this activity to exist is the presence to the mind of external objects. Presenting to pupils right objects, in the right order and manner, for knowledge and training, is teaching.

The primary teacher would be directed to the right objects for his training, and to the right order of them, by a primary course of studies, made out in accordance with the rules already given.

The course would be something like the following: Primary reading, spelling, elementary composition, numbers, singing, linear drawing, gymnastics.

The correct teaching of primary reading implies, first, teaching the objects named and described in the reading lessons; second, teaching the oral names of objects and qualities taught; third, the written or printed forms of these names. What objects are to be taught, will be suggested by the reading lessons themselves.

The *alphabet* and *spelling* should be learned, that pupils may make words for themselves.

The words, whose letters and whose spelling are to be first learned, should be taken from the reading lessons. In these lessons words have been taught as words: first, with reference to their signification; second, with reference to their forms, oral and written. These are the words the pupil will desire to use in constructing his first sentences, which he will be put to forming for his elementary compositions. If words are presented first, as wholes, the learner will master the parts, or the alphabet, without an especial study of the letters; and for this reason the topic alphabet was not mentioned in the above course of studies for primary schools.

Exercises in elementary composition may be made the occasion of teaching both spelling and penmanship. Constructing written elementary compositions is one of the most productive exercises that can be introduced into a primary school. It implies a study of objects for knowledge, and practice in expression for language.

As in reading, so in elementary composition, the pupil should be prepared for the exercise by a systematic oral and objective teaching of that which is to be described. The objects taught should be of such kinds as will be studied in the elementary schools for facts relating to individuals, and in the upper schools for general knowledge relating to classes. If this work is thoroughly done in the primary schools, the pupils will be prepared, when they enter upon their scientific studies, with all that elementary knowledge necessary to classification. A just criticism passed upon our elementary teaching for reading, and for language generally, is, that it is aimless in so far as useful knowledge and a preparation for the work in the upper schools are concerned. Much time is wasted by teaching what is not worth knowing, and in studying that which calls for no proper mental exercise to learn.

In studying objects, the mind needs a power by which one may be set apart from many, and made a distinct object of thought. This is the power by whose activity the mind knows of that quality of objects called number.

The particular topics under the general topic number in the primary school should limit the teaching to the processes of uniting, separating, and comparing numbers, and to the expressing of these processes. All the kinds of units counted should be taught objectively, and so thoroughly that the pupil will be familiar with them.

Linear drawing is to be introduced at once into primary schools, for the following reasons: Drawing has for its object that training of the hand and eye which lays a foundation for skill in the arts. Such training leads to that appreciation of art necessary to create a demand for its products; it leads the mind to make a more careful examination of objects of study; it furnishes the best method of describing those objects that have form and size; it has a refining influence, by cultivating the taste; and it improves the morals, by exciting a love for the beautiful.

The training which skill in drawing implies, is that which every student will be glad to possess when he comes to take up the work of practical life.

Singing is an important branch of primary instruction; training in this art is good for the reader to receive. It furnishes one with the ability to express emotions which can be fully expressed only in song; it provides a source of refinement and elevated enjoyment; and when rightly conducted it has a tendency to purify the heart.

Gymnastic exercises give grace and beauty to the body, and good training to the mind. They promote physical health, and furnish an opportunity for breaking up the monotony of school work, and for mental rest.

From the primary course of studies will arise a series of lessons on objects which will have for their immediate end to occasion in the mind of the pupil all that knowledge which the language he learns expresses. The matter and the order of these lessons may both be learned from the course itself. Whatever is to be named and described in any lesson of the primary course of instruction, is to be taught objectively, and to the extent necessary for a full understanding of all the language the pupil is required to use in that lesson.

The primary teacher should also look forward to the next grade of schools above his own, and consider what his pupils must know and be able to do, that they may be prepared for advanced work. This will lead him to introduce a second series of lessons, which shall have for their end a systematic study of the qualities of objects.

The primary qualities, as they are known at once and in themselves, are to be taught first and in the order of form, size, number, position, &c.: color, though a secondary quality, is to be taught in the first lessons and along with form. In the intermediate schools, the pupils, with other exercises, are to study natural objects. These objects are distinguished from one another, and are classified, by means of their qualities. Therefore, to prepare the primary pupil for his work in the intermediate school, he must be put to a systematic study of those qualities, a knowledge of which he will use in his intermediate studies. If the pupil is properly trained in the primary school, he will enter the intermediate with considerable discipline of the observing powers, with some well-arranged knowledge of facts, and with sufficient language to accurately express what he knows.

The powers of the mind that are to be especially called into activity in the intermediate school are, first, the observing powers; second, the representative powers, — memory and imagination. In so far as new knowledge of facts is concerned, the powers of observing are still to be exercised and trained; but as the knowledge thus gained is to be reproduced, and also combined anew, a course of studies may be introduced for the purpose of training the representative powers. New knowledge of objects is still to be taught by their presence, but the mind may be led to reproduce its past states by the use of language.

The occasions for the mental activity and knowledge exerted and acquired in the intermediate school are lessons in reading, spelling, elementary composition, number, historical facts, elements of geography, and of all the sciences which are to be taught in the secondary or high school. The reading lessons should describe familiar objects, scenes, and events; but as the imagination of the pupil has been used enough already to be able to act with facility, lessons in reading may also be given in which figurative language is employed to describe those objects of thought which the creative power has produced.

The spelling is to be taught largely in connection with written composition and other written exercises.

The pupil is to be prepared for his exercises in written composition by a previous study of whatever is to be described of natural objects, and by being led to *imagine* what is to be described of purely mental objects.

The lessons in number may require units of all kinds to be combined by what are called the fundamental operations, and the mental work may be expressed both orally and with written characters.

As in the intermediate school, the elements of the sciences are to be taught, a third series of objective lessons should be given that will supply the pupils with a knowledge of those facts which constitute the elements themselves. To prepare the pupil for geography proper, the pupils will require two preparatory steps.

The first is to be taken in the primary school, and consists of exercises on form, size, distance, position, &c., to furnish the pupil with that knowledge he must have to enable him to study individual geographical objects. For he cannot think of the length of a river, until his mind has had exercise in thinking of length. He cannot think of the form and size the earth has, until he has had awakened in his mind ideas of form and size. The second step is to be taken in the intermediate school, and consists of learning the form and size of the earth, and of the continents; of individual rivers, and where they are; of individual mountains, and where located; and so of all other geographical objects.

With training like this, the pupil will enter the scientific school prepared to classify and to study for the causes of the geographical facts he has found by observation to exist.

In the same way there should be taken up, in the intermediate school, an objective study of all those topics that are to be considered as sciences in a higher grade of instruction.

There is another point connected with this teaching, that is all important for the teacher to observe. In classifying natural objects, as animals, for instance, the scientific student will be led to arrange them first in branches, then to arrange the branches in classes, the classes in orders, &c.

A knowledge of the plans of scientific classification will suggest to teachers the order of teaching the elementary knowledge upon which the scientific is founded. According to the plan, the objects to be classified are arranged in the most general divisions first, and so on in order to the most particular, and for two reasons: 1st; The analytic process of study, the only possible process, requires it; 2d, General knowledge is always simpler than more particular knowledge.

Branches are the most general division of animals and plants.

The scientific student, then, will classify first into branches. One branch of a kind of things is distinguished from another branch of the same kind by its plan of structure. The plan is expressed by peculiar marks found in the structures themselves.

The marks by which the branch of animals called vertebrates is known are a backbone and spinal cord. If the teacher is preparing his intermediate pupils for the future classification of vertebrates, he will teach these marks first, because they are the first to be used.

Branches are divided into classes by other marks. These are to be taught next after the marks for branches, and so on down to the marks for species.

From this it will appear that the plan of classifying will determine the plan of analyzing individual objects for the facts used in the classification. What is to be taught in the elementary lessons, and the order of teaching, will always be found in the plan of scientific teaching.

We have spoken of a plan for the elementary teaching of natural objects. The same plan should be observed in the elementary teaching for all the sciences. The pupil should be put to observing the heavens for facts, long before he takes up the scientific study of astronomy; and he should be led to observe the facts in the order in which they will be used in the science. The elements of every science are to be taught in the same way. Such teaching implies a definite end to be secured in the lower schools, and it renders scientific study possible.

From a want of such teaching we do not have much purely scientific teaching in this country.

The intermediate, as well as the primary schools, must be fully supplied with natural objects for study, and with apparatus for illustration, and must be taught by teachers who understand all the work of the secondary schools; for it has been shown that such knowledge is necessary to guide them in the elementary work.

After the elements have been well taught, and the mind of the pupil becomes able to understand the causes of the phenomena he has studied, then a scientific course of studies may be introduced. To make out this course and a plan for teaching it, requires an understanding of both elementary and scientific knowledge, and the relations they hold to each other. These things we will try to explain.

Individual objects or subjects of thought may be studied for a knowledge of their qualities or of their attributes. The knowledge acquired by this study is of facts pertaining to individual things, and is called elementary knowledge.

In due time, after the mind has had much experience with individuals, it seems to turn itself back upon its elementary knowledge of them, and finds, perhaps, that some of their qualities or attributes are common to them all; then the mind would be inclined to judge that all objects of the kind analyzed possess what is found common to a few.

The next act would consist in mentally collecting into one division all objects, subjective or objective, having the common attributes, by simply affirming these attributes of them. The division possessing the common properties is a class of either mental or physical objects, and a knowledge of the class is scientific knowledge.

By analysis, generalization, and combination, the mind obtains a knowledge of facts, and classifies.

The analysis for facts is the elementary act, and the knowledge obtained is elementary. The generalization and combination for classes are scientific acts, and the knowledge obtained is scientific knowledge. The relation that elementary holds to scientific knowledge is, the one suggests the other; that is, a knowledge of individuals suggests a knowledge of classes.

This relation requires two things to be done: 1st, That elementary shall be taught before scientific knowledge; 2d, That the facts of the one *shall* be taught in the same order that will be observed in using them to occasion the other.

SCIENTIFIC COURSE.

Subjects of the reading lessons should be such as will call into exercise the reflective as well as the creative power.

Written compositions, constructed according to a method.

The study of number passes to the study of arithmetic; arithmetic to algebra; and the knowledge acquired by the study of arithmetic and algebra, together with a knowledge of *form*, prepares for the study of geometry. A knowledge of the laws of all those changes in bodies, that do not affect them as bodies, can be obtained by the study of physics and astronomy; for a knowledge of the laws of those changes that do affect the identity of bodies, chemistry is taken. The laws of the changes that build up the structures of things lead the mind from the study of plants to the study of botany; from the study of minerals to mineralogy; from animals to zoölogy; from the study of facts pertaining to the earth, to geology and geography.

A study of the facts of history will now pass to the study of history as a science.

As a means of acquiring new knowledge, of cultivating the taste, and of furnishing that training of the eye and hand that is necessary for skill in the arts, drawing may be taken, free-hand, industrial, and mechanical.

The pupils of the scientific school have already had a long and careful training in language, — a training that had for its end the power to use language. Now they will desire to master the principles of construction of language for the sake of a standard by which they may criticise their own sentences; and the grammar of languages is taken up.

The English student may desire to confine himself to the study of English grammar; but a thorough knowledge of English construction implies some knowledge of other languages from which our own, in part, is derived.

After the pupil is familiar with the construction of his language, he should study for the rules that govern its use, under the topic, rhetoric.

English literature may be taken with rhetoric, that the pupil may have exercise in applying the rules to the analysis of the writings of standard authors, and to the forming of his own style.

Written composition, of which we have already spoken, may be taught in connection with rhetoric and English literature.

Next there may be introduced the higher mathematics, as a means to the study of those sciences whose prosecution depends upon them.

From the study of language the mind is led back to the study of thoughts to which the language employed gives expression, under logic.

From the thoughts the mind is led still back to the mind that thinks, and the way is prepared for psychology.

From the mind of the individual, to society, and civil polity and political economy may be taken.

In the study of man the mind is naturally directed to the relations he holds to God; and moral philosophy is to be added to the course to make it complete.

If the pupil has passed thoroughly over this course, he will be ready to take up, with profit and pleasure, any of the ordinary occupations of life; or he may enter upon a course of professional training.

The course now marked out is complete for all our grades from the primary through the high school. It has not been distributed according to years or to the age of pupils; nor have the general subjects been divided into particular topics, so as to present the parts of the subjects. This has been left for those to do, who, knowing the particular wants of their own schools, can best make out a particular course, each for himself. A course of studies, minutely made out for a particular school or for particular schools, is more easily understood, but may have no general value. Teachers must be allowed some latitude in their work, though they should never permit themselves, nor be permitted, to violate a principle, either in making out courses of study or in contriving their methods of teaching.

TEACHING.

Good courses of studies will avail little if they are improperly taught. Although the mind is the cause which produces the knowledge and character it possesses, yet certain external conditions must exist before it can possess either. The mind cannot learn if the objects of knowledge are excluded from its presence; nor can it increase in strength if it is not exercised by a right use of its powers. It is the province of teaching, to furnish the conditions of learning and of mental growth. From the fact that the mind is subject to limitation in its efforts to gain knowledge and to develop itself, it seems necessary for the teacher to know to what extent these limitations are found in ways or methods of teaching.

A study for such knowledge should be directed, first, to obtaining a distinct notion of what teaching itself is; second, of what the ways of teaching are: then it will be possible to discover the relations the ways hold to that end which teaching should attempt to secure.

Teaching Defined.

By the term *object of thought*, is meant any thing of which we may think.

An object is in the presence of the mind when it holds such a relation to the mind as to affect it in any way.

If an object of thought is presented to the mind, two results will be produced: knowledge will be acquired, and the mind will be trained or developed by the processes of thinking to acquire the knowledge.

Presenting objects of thought to the mind, for knowledge and mental development, is *teaching*.

Methods of Teaching.

From the definition of teaching already given, it consists in presenting the object itself of thought for study, whatever that object may be.

Teaching may be attempted by presenting to the pupil an oral description of the object to be taught, as is done by lectures; or a written description, as is done by assigning lessons to be learned from books.

There are, then, two ways of teaching, or of attempting to teach.

The ways of doing any thing are called methods.

The two methods of teaching receive names, that denote in what one differs from the other.

They differ in this: the one presents objects of study to the mind, for the results desired; the other, language, by which the objects are described.

On account of the nature of the difference, the first is called the objective, and the second the written method. As in the objective method the teacher not only presents the object of study, but accompanies the presenting with such a use of language as will direct the mind of the pupil in its thinking of that object, the objective method is sometimes called the oral objective method. Let it be called the oral method.

We have already compared the two methods of teaching for the difference in the methods themselves; but it still remains to compare them with reference to the difference in the results produced by their use, before we can tell which to employ.

In comparing for results, we find: —

1. That the use of the oral method requires the true objects of thought, or good representatives of them, to be presented to the pupil as the occasion of his thinking and of his knowledge.

2. The presence of the objects themselves will lead the mind to such activity as produces real knowledge, or such knowledge as has real objects corresponding to it.

3. A right use of the method will furnish the mind with an opportunity to acquire that mental cultivation which is known to be the end for which the pupil should study.

By mental cultivation is meant the facility for acting, which the mind acquires by a right exertion of its own power.

The mind acquires no facility in thinking of things by simply thinking of their names; and nothing but a name, used merely as a word, can be the object of thought, until the object itself is introduced. This accounts for the fact, that the minds of the children are not developed in those schools whose teachers limit their teaching to presenting words as occasions for ideas of things, and whose pupils limit their study to committing the words to memory.

It should not be forgotten by the teacher, that the mind acquires facility in producing any of its states, by the exercise of producing them; and in performing any act designed to affect external things, by practice in performing that act.

4. A right application of the oral method of teaching will train the pupil to a right method of study. The relation that the activity of the observing powers holds to that of the reflective, that particular notions hold to general, and that elementary

knowledge holds to scientific, requires not only that objects of thought should always be presented in teaching, but that they shall be so presented as to lead the pupil to study, first for facts, secondly for the science that may be suggested by them. If natural objects, and mathematics, and language, and the laws of thought and of the human mind, — if all forms of knowledge are taught in this way, the pupil while in school will learn how to think, and when he leaves will be able to pursue his studies, to an unlimited extent, alone.

This result is of the highest value, and it should be the aim of every teacher to produce it.

5. By the oral method, the teacher can present the truth, and excite such a love for it, that his pupils will be satisfied with nothing else.

Five good results will follow the right use of the oral method of teaching. Not one of them can be produced by the written method. The absence from our schoolrooms of the objects to be taught, and the use of language as a substitute for them, train the pupil to be satisfied with words, although he may not know their meaning. Such training leaves men to pass through the world without the desire or the power to see it. It compels them in all their reasoning processes to appeal to their imagination for their facts, and reduces the reasonings themselves to a mere wrangle with words, rather than an intelligent analysis of well-understood propositions. The effects of wrong methods of teaching are seen in the false notions many are led to accept, because they have not been trained to love the truth; in the readiness with which some pass judgments upon that of which they know little or nothing; in the want of ability others have of finding the truth for which they honestly seek.

Successful oral teaching is the product of knowledge, skill, and experience. The teacher must have a good knowledge of the mind, of the facts he is to teach, and of the sciences which rest upon them, and of the end to be secured by school-work. He must have skill in applying his method, or he will fail to awaken right ideas, or he will do for the pupil what the pupil should do for himself, or he will talk too much, or spend time in teaching what is not worth knowing. He must have experience, or he will be liable to violate all the principles of good teaching in attempting to apply them. The oral teacher should remember that he has performed his duty when he has presented proper occasions for ideas and thoughts, and has taught the language by which they are to be expressed. The observing and the reflecting must be done by the pupil himself.

NORMAL SCHOOLS.

To teach intelligently, and so as to produce the best results, requires a knowledge of the child's nature, of the means by which it is to be trained, and of the end which should be secured by training. A knowledge of the means of training includes a knowledge of all those branches of study which are to be taught in the schools; of their relations to one another, and to the mind whose activity they are to occasion. As the mind is controlled by a law of its own, in gaining knowledge and strength, the teacher must have a way or method of teaching that conforms to the law. In addition to a knowledge of the mind, and of the topics of knowledge to be taught, and of the end and method of teaching, the teacher must be trained by practice, until he has skill in the application of his knowledge and method. There are two ways of attaining that knowledge and skill which constitute a good teacher. One is by trial and discovery, which any teacher may chance to make for himself. The other is by study and practice, under the directing mind of a master. The first way is one of experience, and, when used, generally requires years of mistakes and waste before the right way is found; and, as a fact, a few only ever find, by their own unguided efforts, the best method of teaching. The value of skill appears in all forms of human labor; but nowhere is it more imperatively demanded, or more productive of good results, than in that labor which has for its object the communication of knowledge, and the foundation of human character. The destiny of individuals and the life of the state are vitally affected by the schools; and the schools, notwithstanding all their external appointments, will be just what the teachers make them. We cannot afford, then, to have our teachers groping their way toward skill in their work after entering upon it, with the chances against them of ever finding it until after years of failure, if it is found at all.

"Intelligent statesmen in Europe and America have used their best efforts to establish normal schools wherever the state has undertaken the education of the masses at public expense, as a measure of wisdom and economy." "Experience has demonstrated the fact, that, owing to the nature of the material on which the teacher operates, — the developing human mind, — the profession of teaching differs from other professions, and cannot fall under the law of supply and demand, but requires the special interposition of private corporations or of government itself." A profound appreciation of these truths led, many years ago, such men as John Quincy Adams and Daniel Webster in Massachusetts, and DeWitt Clinton in New York, to earnestly recommend the establishment of teachers' seminaries in their own States, for the better education of the teachers of the public schools. Since that time, Massachusetts has organized six of these schools, including the Normal Art School. The number of pupils in them the last year, ending July 1, was 1,136, with 56 teachers.

In the school at Salem there were	309
Westfield there were	135
Worcester there were	134
Bridgewater there were	188
Framingham there were	105
Normal Art School there were	265
Total	1,136
The number of graduates from five of the schools, excluding the Normal Art School, was	201
Number of those who received certificates in the Normal Art School,	68

Nearly the entire number of those who graduate from the normal schools obtain immediate and constant employment as teachers in the common schools of the State. By carefully prepared statistics, it has been found that over ninety per cent of the normal graduates teach in the Commonwealth, and that they teach on an average for six years. A large number of these graduates make teaching a life-work. According to the last report received from the towns, there were, teaching in the State last year, 1,411 teachers who had attended the normal schools, but not long enough to graduate; there were also in the schools 1,649 teachers who had graduated, some from a two-years', others from a four-years' course; making in all a number equal to thirty-five per cent of all the teachers now employed in the public schools. From an extensive and somewhat thorough examination of the work done by normal teachers, it appears, on the whole, to exhibit just those excellences we should expect a professional training would produce; excellences such as good training for any work is adapted to produce. They not only introduce improved methods of teaching into their own teaching, but by example they affect for good all other teaching within the sphere of their influence. Much of the enthusiasm now existing among the educators of the State, in a study for better ways of teaching, owes its origin directly or indirectly to the influence exerted by our normal and training schools. These schools were organized with especial reference to improving the character of the teaching in our public schools, by supplying them, as far as possible, with trained teachers; and on this account they are to be considered as literally belonging to our system of public schools. The necessity for the existence of the normal schools is included in the necessity for the existence of good common schools. On this account they are to be supported with the same spirit and by the same means. It must be remembered that the State educates the teachers of her public schools, not primarily for the sake of the teachers as individuals, but for the sake of the schools upon whose character depends not only her own character, but her existence as a free State.

The two technical schools at West Point and Annapolis were not established by the National Government to educate a few chosen young men in the art of war, that they might become skilful defenders of themselves as individuals, but that they might be trained to manage with skill our military affairs, and become defenders of our national peace and safety. The State, in helping her school-teachers to a good professional training, is simply helping herself to good schools. Viewed in this light, our normal schools are one of the most useful and economic institutions of modern times. The State has made a great advance within a few years in her ideas of what constitutes good elementary schools; and she is depending now, more than ever before, upon her normal schools for a supply of well-trained elementary teachers. It is believed that the financial affairs of these institutions are managed in accordance with the spirit of a true economy. The amount asked for their support includes wages of teachers, cost of fuel, and care of buildings, and the expenses of ordinary repairs. A reduction of five per cent has been made on salaries; and after a careful comparison of the salaries now paid to normal teachers with those paid to other teachers of a similar grade in this and other States, it would seem that the former cannot with fairness or safety be further reduced.

It is of the utmost importance that the normal schools be supplied with teachers of the best talent and the best training, and that the teachers be kept as permanently as possible in their places. Our modern civilization does not demand that the schools should be reduced in number or in efficiency; but for the sake of the common schools — the favorite objects with every free people — they should be made as productive as possible.

The normal schools were originally organized with reference to furnishing professional training only, and on the supposition that the knowledge of the subjects to be taught in the public schools should be obtained in them. But, as a fact, the normal schools have thus far been compelled to do much academic, as well as professional work; for no student has ever yet entered these schools fully prepared to take up at once and exclusively the study and practice of the science and art of teaching. As the preparatory schools are doing their work better now than formerly, and as there is an increasing demand for more thoroughly prepared teachers than are to be found in sufficient numbers, it would be well to raise the standard for admission to the normal schools, and for graduating from them. In addition to scholarship, it should be required of the candidate for admission, that he possess a sound body, a good personal presence, a sound mental and moral character, and an instinctive love for the work of his chosen profession: then, after graduating, he will be likely to return to the State much more than he has received.

The Normal Art School.

This school was established at midsummer, 1873, for the purpose of preparing efficient teachers of industrial art in the public institutions of Massachusetts.

By an act of the State Legislature, dated May 16, 1870, drawing was made an obligatory study in the public schools, and industrial drawing required to be taught in day or evening schools in all cities or towns having more than ten thousand inhabitants. The act is as follows: —

[Chap. 248, Acts of 1870.]

SECTION 1. The first section of chap. 38 of the General Statutes is amended so as to include drawing among the branches of learning which are by said section required to be taught in the public schools.

SECT. 2. Any city or town may, and every city and town having more than ten thousand inhabitants shall, annually make provision giving free instruction in industrial or mechanical drawing to persons over fifteen years of age, either in day or evening schools, under the direction of the school committee.

SECT. 3. This act shall take effect upon its passage.

Approved May 16, 1870.

In the first prospectus of the Normal Art School, it was stated concerning this act, that "the act met with much public favor; but it was soon found that it was impossible to realize satisfactorily the benefits intended by the act, for want of competent teachers. Another act was therefore passed by the legislature, providing for the establishment and maintenance of a State Normal Art School. Its specific aim at present is to prepare teachers for the industrial drawing schools of the State, who shall also be able to direct and superintend the instruction in this branch in the public schools."

It had been found to be impracticable to maintain the evening industrial drawing classes for mechanics, or to introduce drawing into the public day schools, and thus give effect to the act of 1870, without the assistance of persons properly trained and qualified to give instruction in the subject. From this cause, the evening classes languished, and little progress was made in the public schools. Therefore the Board of Education thought that teachers of industrial drawing must be provided, or the act of 1870 would remain inoperative.

After two years' consideration of the matter, and full deliberation in committees, the legislature established the Normal Art School.

The attendance of students since its beginning in 1873 has been as follows: —

		1873-74.	1874-75.	1875-76.	1876-77.	1877-78.
Class A . .	Gentlemen . .	47	73	91	44	55
	Ladies . . .	86	142	142	108	117
Class B . .	Gentlemen . .	–	11	12	8	12
	Ladies . . .	–	13	26	36	54
Class C . .	Gentlemen . .	–	–	17	12	7
	Ladies . . .	–	–	4	2	3
Class D . .	Gentlemen . .	–	–	10	5	12
	Ladies . . .	–	–	5	3	5
	Total . .	133	239	307	218	265

Total attendance for the five years: —

Ladies	746
Gentlemen	416
	1,162

The organization of the school and arrangement of its course of study, extending over four years, have been made with the sole view of preparing teachers of industrial drawing, not students of fine art; and, in following this course of providing teachers for the public schools and institutions of the State by the State, the Board of Education was convinced that it adopted the only possible remedy for the difficulty of finding good teachers. European countries, especially France and England, had discovered, on the threshold of their scheme of industrial art education, that good teachers were not a natural product, nor did they come of private enterprise, but must be the result of public action and of expenditure commensurate with the results anticipated from their labors. The object sought was of no less importance than the general elevation of public taste, and the absolute increase in value of every branch of manufacture. In a country where there is no real art atmosphere, such as is created by antiquities or historical buildings and monuments, advancement in the arts by the people must be the result of instruction. This instruction in art can only be given by well-educated teachers of industrial drawing, designing, and modelling, taught not only to draw, design, and model, themselves, but the very much higher art of teaching others to do the same.

Ordinary schools for teaching the practice of drawing do not produce teachers of drawing. It is not their aim, and the range of studies in such schools is far too limited to produce teachers. Nor is normal instruction given in them. Both France and England had to establish normal art schools before they could secure general and successful instruction in drawing; and to-day they stand at the head of the world in the money value of their industrial arts. Both countries attribute their position to general education in elementary art and science. It is thought that our Normal Art School has a course of study and a corps of teachers not excelled in any normal art school in the world. Its influence reaches every class-room in Massachusetts, more or less, and is increasing every year. What the school would become if proper accommodation in the form of buildings and apparatus were provided for it, may be inferred from a knowledge of what it has already done when both are entirely inadequate. But its influence and its students have already changed for the better the character of the instruction in drawing throughout the Commonwealth.

As, without instruction in industrial drawing, skilled labor, such as the world requires to-day, is an impossibility, the commercial value of the Normal Art School, which is the only American agency that can supply this instruction, can be estimated at its worth. The commercial value of almost all industrial products which are the result of human skill, beyond the raw materials of the industrial arts, depends greatly upon the amount of skill employed by the labor producing them. In the United States this has not yet been intelligently realized as an economic principle. As a consequence, American exports represent natural products, or the result of unskilled labor, which are of little value in proportion to the cost of producing them; whilst the imports of America are the result of skilled labor in the arts, made of great value by the taste and skill they display. In all the great international exhibitions America has been adjudged the lowest place in industrial skill, with some exceptions, principally in the direction of labor-saving appliances. Yet the remarkable inventiveness displayed in many machines and tools shown in the American department of every one of these exhibitions showed that the faculty and love of originality exist strongly in the national character. This inventiveness, exercised in the direction of design, would greatly increase the value of many departments of industrial products, enriching the country in two ways, — giving the workmen higher wages for better work, and removing the necessity of importing so many and costly manufactured goods.

It is considered, that, in the competition with the world which the State of Massachusetts has to encounter as a manufacturing State, she is at present lamentably distanced through the absence of taste and skilled labor in industrial art; but that, this being supplied by a judicious system of education in art, she would soon be placed beyond the dangers of competition by something within the products of those industries, namely, increased values, infinitely more protective to them than tariffs and watchmen from without, which, our present experience shows us, afford no protection at all.

There is a growing appreciation of the value of drawing as a branch of common-school instruction, and a much clearer perception of the fact, that to teach drawing in the schools of the people is to lay the foundation, not only of national art-culture, but of national progress in the industrial arts.

The establishment of art schools and schools of design for the masses is of modern origin, and is due to two considerations, based on experience of the great value of general artistic skill in promoting the civilization of a people, and in increasing the sources of national wealth. Wise men in all countries are turning their attention to these schools, knowing that every complete system of education must provide for the culture of all the faculties of the human mind, intellectual and emotional, and must, besides, supply the means necessary for the development of those practical powers upon which the social and national progress of every civilized people depends.

Our Normal Art School, by sending out trained teachers into all parts of the Commonwealth, is silently, though surely, laying the foundation for that education which will hereafter show itself in a more cultivated public taste in all matters pertaining to art, in the elevation of labor by adding skill to industry, and in the material prosperity of the whole people.

INDUSTRIAL ELEMENT.

The public schools of the State are organized with reference to practical knowledge and general culture. During the public-school life of the child not much attention is ever given to the study or practice of that which he will do after he leaves the schools.

It is supposed that the general culture acquired in the schools, as they are now organized, will furnish their graduates with all that is necessary to enable them to enter upon a special preparation for any special work.

Two results seem to follow the absence of the industrial element in our system of elementary education. First, the pupils in the common schools are not trained to skill in any kind of manual labor. Second, from a lack of industrial training and from the absence of skill in labor, on account of the lack, there is a large number of persons growing up in our society with the idea that what is called work is to be performed by physical force, guided only by instinct, or by untrained reason. This sentiment degrades labor, and creates an aversion to it. To correct the wrong notions which our youth are too apt to form, to accustom them from the first to consider labor to be most honorable for all, for the rich as well as the poor, many of our prominent educators deem it desirable to join, in some form, mechanical and industrial training to our elementary school exercises.

It is thought that our young people can be trained to an inclination to work by making them familiar with it, and skilful in its performance. These notions are prevailing, and have prevailed from ancient times, and in all civilized countries. Solon freed children from all obligations to their old parents who neglected to teach them a trade. Lieber said, in his "Ethics of Politics," that all his investigations lead him to the conclusion that modern crime is very much due to want of fixed occupations. In Belgium, in districts maintaining industrial schools, vagrancy has entirely disappeared, and with it have disappeared crime and pauperism — the natural attendants of vagrancy. Chief Justice Hale recommended in 1676 that Parliament should establish in every parish in England an industrial school. In 1705 John Locke advised the establishment of labor-schools. Pestalozzi trained his pupils in various industrial arts, as well as in the different branches of learning. Froebel thought that the pupils of common schools should be trained in industrial occupations. One branch of industrial pursuits, needlework, has been almost universally introduced into the common schools of Germany, and, to some extent, successfully into our own schools. In England, before any grant is made to an elementary school, the educational department must be satisfied that the girls are taught plain needlework, and cutting out, as a part of their course of instruction.

It must be admitted that some form of industrial training seems necessary, that our youth may have the spirit and the skill for work trained into them; but what kinds of labor should be introduced into our courses of instruction, or how we shall organize our schools with reference to joining industrial training to ordinary school exercises, is still one of the unsolved educational problems of the times. The subject is one of vital interest to the Commonwealth, and should receive the most earnest attention of all educators of the young.

Technical Schools.

A technical school is one in which the applications of science to the industrial arts are taught.

An account of the course of study, and of the methods and practice of teaching, in two of our celebrated technical schools, was fully given in the last report of the Board. For the account of the successful industrial school at 23 Church Street, Boston, reference may be made to the same report.

The Technical School at Worcester was chartered by the Legislature of Massachusetts May 10, 1865, and opened for the reception of students Nov. 12, 1868.

Resolve in Favor of the Worcester County Free Institute of Industrial Science.

Resolved, That there be allowed and paid out of the treasury of the Commonwealth, the sum of fifty thousand dollars to the Worcester County Free Institute of Industrial Science. And in consideration of this grant, said institute shall annually receive twenty pupils, and instruct them during the entire course free of tuition; such pupils to be selected by the Board of Education from the different counties in this Commonwealth, except that none shall be taken from Worcester County. [*Approved May 10, 1869.*]

The Institute has faithfully performed its part of the contract, and on account of its relations to the industries of the

State, should, with our other technical schools, be cherished as belonging to our most important public institutions.

Number of Students in Worcester Free Institute on the State Foundation.

Number in each School Year.

1870–71	1	1874–75	20
1871–72	8	1875–76	23
1872–73	12	1876–77	20
1873–74	19	1877–78	15

Number from each County.

Hampshire	9	Norfolk	17
Middlesex	28	Barnstable	6
Plymouth	9	Hampden	6
Suffolk	10	Bristol	4
Essex	16	Franklin	5
Dukes	1	Berkshire	4

THE METRIC SYSTEM.

In the report of last year was expressed a belief in the immediate practical value of the metric system to the present generation, and in the importance of thoroughly teaching it to our school-children. With this belief was expressed the hope that a law might soon be passed making such thorough instruction compulsory. In again calling attention to the subject, I am able to emphasize the belief and hope of the last report by pointing to a year of most satisfactory progress in the direction recommended. This progress I attribute entirely to a wider knowledge of the system. It has only to be properly understood to be heartily indorsed. The time of adoption depends, therefore, on how long it will take to teach the people its merits. Earnest efforts are making by the educational society incorporated in this State in 1876 for the express purpose of disseminating information of the system and its advantages. To this end lectures have been given throughout the country; articles have been furnished to the periodical press, and widely copied and circulated; circulars of information have been distributed to applicants; placards and charts illustrating the system or its advantages have been posted in prominent places; a very large correspondence has been kept up by the society with all parts of the country; committees have waited upon State legislatures and educational associations; and a large number of active educators have lost no opportunity of advocating the new measures.

During the year 1878 an international conference was held in Paris, which passed resolutions deploring the fact that the United States, England, and Russia still clung to their old systems instead of joining the rest of the world in the use of the metric. Committees were appointed to wait upon these governments, to urge early action. This country has in the last year done more than any other towards adopting the system. The committee of Congress on coinage, weights and measures, have given the subject their favorable attention. Their very full report has just been ordered printed. It is hoped that the system may be adopted for the custom-house and post-office departments, as it has been already adopted in the mint, the coast survey, and in all foreign postal relations. During 1878 the United States finally joined in the support of the International Bureau of metric weights and measures, thus committing the committee more than ever before to the international system. During 1878 the system was made obligatory throughout the United States Marine Hospital Service, and the supplies distributed through its agency were all in metric measures. This led to special agitation among the medical profession. Nearly every medical periodical of the country advocated its adoption; all the leading medical societies passed resolutions recommending its use to their members; some, like the State Pharmaceutical Association of Rhode Island, have fixed a date for its complete adoption, Jan. 1, 1880. Those best acquainted with this movement claim that the adoption by the medical profession is practically accomplished. As a result, the druggists of the country are rapidly supplying themselves with metric graduates and weights, and even now few respectable pharmacists are unable to dispense medicines metrically.

More or less progress is making both by individuals and by corporations in the use of the system; but few can adopt the new measures as easily as the physicians and druggists.

The advantages to commerce are even greater than those to education; but, though this is understood, it seems impracticable to make the adoption general until the schools have paved the way. To the many petitions which have been made by most of the scientific and educational bodies of the country, that a date for the complete adoption shall be fixed, legislators make the same reply. The leading and most enthusiastic advocates agree that the time for such legislation, and for its general adoption in business, is after the schools have done their duty and given their pupils thorough training in the new system.

The responsibility of this important matter, therefore, rests with the schools. Prominent educators have accepted this responsibility, and are striving to discharge their duty. City and town superintendents and committees in various parts of the country have introduced the teaching, or made the teaching previously done more simple and practical. At nearly all meetings of teachers, strong resolutions have been passed, urging more thorough instruction. The city of Boston began with supplying its high schools with sets of apparatus. It has lately supplied all its grammar schools with similar sets, and is about to furnish the primary schools with the same. The State superintendent of Connecticut announced last summer that at the end of 1878 there would be no school in his State that did not have something with which to illustrate and explain the metric system. The State of New Jersey has taken the lead in passing a bill, and making the appropriation to furnish each schoolroom of the entire State with metric apparatus; and the distribution is now going forward. The academies, private schools, and a large number of individual public schools, have taken similar steps. The colleges of the country, two years ago, required thorough knowledge of the system for admission. Most of the high schools now make the same requirement.

The teachers are awaking to the fact, that, instead of increasing their burdens, the introduction of the system lightens them; that the hours required to master the metric system will save days of drudgery. Many who have taught it heretofore with little interest or success, and with no enthusiasm, have themselves come to understand its simplicity and harmony, and have presented the subject to their classes in a new light, and made its study practical and pleasant to both pupils and teachers. Some have found in the metric weights and measures the most perfect apparatus yet made with which to begin instruction in numbers and arithmetic. The units, tenths, hundredths, and thousandths of the Arabic notation are made tangible. All the operations with numbers are made real with the metric measures; and what before was to many only an abstraction may be seen and felt. Thus the introduction of the new measures, instead of being a new burden to the teachers, has proved a most efficient aid. The measures made familiar in teaching simple numbers and arithmetic are learned almost without study.

By admission of its few opponents, even, the complete adoption of the system is at last assured. The pressure of public opinion has now made it necessary for every teacher to teach the system. Each one should become thoroughly informed of the many advantages of the system in commerce and every-day affairs; of the great saving to both teachers and pupils which it will bring to the school; of the certainty of its early adoption: and then should do his part in bringing about the desired result.

I note with pleasure that each new edition of our text-books on arithmetic contains less of the compound numbers and more of metric problems; that the subject is stripped of mistakes and useless matter, and presented more simply and clearly than at the first; that the authors and publishers recognize the necessity of improvement in this respect in order to keep their books in favor. Every thing indicates the rapid progress in the desired work.

I urge teachers and school officers to examine the subject, and to exert their influence to make the adoption of the system universal.

The Moral Element in Education.

The mind has different names simply because it has different modes of activity. It is named the intellect, to indicate its power to think; the sensibility, to express its power to feel pleasure or pain; and the will, to imply its power to choose.

The intellect, sensibility, and will constitute the moral nature when the object of their activity is the moral quality of actions. The moral nature is rightly exercised when it is employed in discovering what is morally right or wrong, in feeling pleasure at the existence of the one, and pain at the existence of the other, and in choosing good ends. A principle of action is that from which the action springs. The principles of moral action are three, — selfishness, self-love, and a sense of duty.

Selfishness is that principle of action which leads the mind to choose what it considers to be an immediate good, instead of a greater remote good, and to do this without reference to the good of others; as when one, having no thought of the future, stays out of school for the sake of present pleasure, or when he takes that which does not belong to him, for the present gratification of his desires, and without regard to the injured rights of another.

Self-love is the foundation for those acts which have reference to that which is for one's good on the whole; as, when he chooses to live a laborious and honest life for the reputation and happiness such a life generally produces.

A sense of duty is that principle of action which leads one to do right because it is right, and to refrain from doing wrong because it is wrong; as, when he chooses a good end without being led to the act by a thought of personal consequences. One acts from a sense of duty when he sacrifices wealth, reputation, and life itself, for no other reason than a desire to do what ought to be done.

The young, to say nothing of the older, are liable to act from the principle of selfishness. They have no past to which they can refer for a guiding experience, or from which they can derive lessons for the future; nor do they know that their future is related in any way to their present. The young act largely from impulse, with their thoughts on what they judge to be a present good. During this period of their lives, they are to be controlled in a measure, by the hope and fear of those rewards and punishments which affect the mind through the body. Selfishness is called a low principle of action; but it is found in the original constitution of the human mind, and is the only active principle while it is deriving all its knowledge through the senses.

Selfishness is a low principle for a mature mind; but it is the highest for a mind unconscious of any experience, or unable to think except of the material facts in its presence.

An intelligent self-love will lead to the practice of every virtue, but the virtue is not of that noble kind which excites our admiration. To one impelled by this principle only, virtuous conduct is for the personal advantage derived from it, and not for its own sake. Self-love does not permit one to forget himself in any of his thinking and acting.

A sense of duty is the highest principle of action of which the mind can be conscious. Influenced by this principle, the mind loves whenever the objects of its thoughts are known to be lovely. Forgetting itself, it is constantly inquiring for what ought to be done, and is never satisfied unless it has chosen a good end without regard to personal consequences.

At first the mind must be led to do what is best from the hope of immediate good or from the fear of immediate harm. The teacher should see to it that proper rewards always accompany good conduct, and proper punishments bad conduct, so that thoughts of well and ill doing may be early associated in the child's mind with thoughts of their own legitimate consequences. Then, as the child has a desire for pleasure and an aversion to pain, by association he may be led to love that which produced the one, and hate that which produced the other.

In this way the young can be led to form good habits through their love of sensible rewards, and through their love of approbation, and their desire to excel. If the child is thoroughly controlled and carefully directed, he will soon have a higher principle impelling him to good conduct than that found in a desire for an immediate good. He will soon experience the pleasures arising from obedience, and the pains arising from transgression.

Now, as he reviews his past, he finds that some ends he has chosen have cost him by far too much, and that some acts which were painful to perform are steadily working out for him a great good. Experience will lead him to change his judgments concerning the goods and ills of life, and enable him to form a judgment of what is for his good on the whole. When this time comes, the pupil, if his previous training has produced its legitimate effect, will begin to find within himself the power of self-control. Arbitrary rewards and punishments may now be gradually withdrawn, and those which are inseparably connected with moral actions may be substituted for them. Rules of conduct may now be made and applied by each one who is to subject himself to their direction. But no one is wise enough to know in all cases what is for his good on the whole; and the highest satisfaction is never experienced in performing an act for the love one bears to himself alone. The mind is never wholly set free from doubts and fears, nor is it ever animated by an exalted love, until faith in an all-wise and powerful and good Being takes the place of trust in human power.

The teacher of the young should never be satisfied until he leads them to act from a sense of duty: indeed, while he is compelled to find the chief incentives in the lower principles of human action, he should keep in view the proper limits of their use, the danger of depending too long and too exclusively upon them, and the necessity of keeping constantly in view that culture which will prepare the way for the exercise of the highest principle. The end that school government should always aim to secure is self-government. The pupil can acquire the power of governing himself by an habitual exercise of that power.

All systems of school government are faulty that do not contain a plan which requires every pupil to have constant exercise in controlling his own conduct. In too many cases the teacher on entering his school makes of himself one party, and leaves his pupils to make of themselves another.

By practice, the one grows skilful in detecting the violation of school-rules, the other in escaping detection; and both, in pursuing their ends, are often led to resort to those devices which degrade each in his own and the other's estimation, and which destroy that sacred regard for fidelity and trust, which it is the especial object of school-government to cultivate.

Ideas of right and wrong are intuitive; but what states of mind or what moral acts are right or wrong, the children do not always intuitively know. They are to be carefully taught what are their moral relations to one another, to their teachers, their parents, to the state, and to God. A knowledge of these relations will awaken in their minds feelings of obligation which will urge them to an habitual exercise in doing what they know and feel to be duty; and the exercise will correct the vices, and cultivate the virtues. Among the vices to be corrected may be mentioned deceit, ingratitude to benefactors, unkindness to associates, a want of reverence, a disposition to quarrel, cruelty, obstinacy, arrogance, laziness, and self-conceit. Among the virtues to be cultivated, are fidelity and trust, — the foundation of all true social relations, — temperance, forgiveness of injuries, candor, modesty, benevolence, justice, gratitude, patriotism, and obedience to all proper authority. The teacher should cultivate the moral nature of his pupils with as much skill and perseverance as he uses in leading them to that knowledge which their prescribed course of study requires them to obtain. No failure in the practice of any of the virtues should be permitted to pass unnoticed. In the school exercises, during the hours of play, and on the way to school, the pupil should be made to feel the necessity and the privilege of obeying all the rules of good conduct. This state no teacher can bring into existence by any form of government, or code of rules. The power to mould character must be *in* the teacher. He must, it is true, express himself by systems and rules; but back of these there must be *in him* a moral power, that may be known and felt by all who are in its presence. With such a teacher, the pupils do not feel at liberty to violate rules, nor to practise deception, nor to perform any of those acts which they know he disapproves.

Moral training should deal as far as possible with individuals. It should lead every pupil to perform for himself all those moral acts which his feelings of moral obligation make to be duties. A good example may be presented by the teacher to the whole, and moral precepts may be communicated in lessons taught to the whole; but, after these things have been done, the teacher should see to it that the moral conduct of every pupil corresponds to the teaching. If any pupil is found practising deception, then, after the meanness and wickedness of lying, and the moral beauty of truthfulness, have been clearly shown, he must be compelled and encouraged to be truthful, until his acts have given him an inclination and facility for truthful acts forever after.

The young child may be stimulated to be truthful in all his relations to others, by an appeal to his hopes and fears of gaining or losing some present good. After an experience in the results of his social acts, he will choose the truth because it is the greatest good.

When the reflective period sets in, — and this comes to the child much earlier than we sometimes think, — he may be led to live a truthful life from a sense of duty. In the same way, all the virtues may be taught, and the practice of them required, until the virtuous character is produced. It is the opinion of many thoughtful men, that our schools are not as fruitful in moral as in intellectual results. This ought not to be; for *that* education is not worthy the name, which does not imply a symmetrical training of the whole nature.

If we consider that the child is an end unto himself, or that he is to become a citizen of the State, we shall conclude at once that the school he has attended is a failure, if it shall send him out from its instruction into society with an unformed or vicious character. To prevent this failure, our schools should be taught by Christian teachers, who understand all the ends they are appointed to attain, and who by precept and example, and by a conscientious exercise of authority, shall guard their children against all the evil influences arrayed against them from without, and shall lead them to such an exercise of their moral nature as will make a sense of duty to be with them the all-controlling principle of action.

JOHN W. DICKINSON.

BOSTON, January, 1879.

APPENDIX.

A.

HYGIENE OF PUBLIC SCHOOLS IN MASSACHUSETTS.

BY

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OF BOSTON.

HYGIENE OF PUBLIC SCHOOLS.

The following paper was prepared and contributed to this report, at the request of the Secretary of the Board of Education, by D. F. Lincoln, M.D., of Boston.

SITE.

DAMPNESS is a most serious fault in the site for a school-building. This may arise from the neighborhood of ponds and swamps, or trees in excessive number; and must then be remedied by draining or filling* the swamp or pond, or felling the trees. It may also be due to the impervious nature of the soil; a difficulty easily remedied, if the site is elevated, by a proper use of drain-pipe and trenches about the house-lot. If, however, it be due to the conformation of the strata giving rise to springs of water on the site of the house, the difficulty may be insuperable. If the water cannot be diverted, the site must not be used; for concrete floors will not keep out water from a cellar built in a saturated soil. An elevated site is generally preferable to a low one, on the ground of better drainage, more abundant sunlight, and a freer supply of air. Even high land, however, is often boggy or full of springs of water.

The bottom of the cellar ought to be at least three feet above the average level of the water in the soil. If this seems impracticable, let tile-drain be run around the cellar at the depth of its floor, and furnished with a discharge at some lower point. In some cases it will be necessary to place the cellar floor at or near the ground level.

Much complaint is made of the excessive dryness of the air in some schools and houses; but this is a slight fault compared with the dampness emanating from floors, walls, and soil, which has been shown by eminent authority to be productive of consumption, catarrh, and rheumatism.

The neighborhood of noisy trades or occupations, or such as pollute the air with smoke, dust, or odor, must be avoided.

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* Filling, without providing an outlet for the water, often results in the production of a permanently damp spot of ground.

Founderies, railway-stations, markets, shambles, and stables are among the places to be shunned. The neighborhood of work-people may sometimes be undesirable, for various reasons.

In our climate a schoolhouse ought to be so placed as to receive the direct rays of the sun in each room during some part of every day in the year. In order to attain this result, several things must be attended to. The site must not be overshadowed by houses, trees, or a hill. Verandas, however necessary in more southern latitudes, are not proper in ours. The architect, in planning enclosed spaces, court-yards, or flanking projections, and, in fact, in all cases, even the simplest possible one of a plain square or oblong building, should consider the "orientation" of the rooms, and should know how long, and at what angle, he has a right to expect the sun to shine into each room. It is obvious enough that a room lighted exclusively by northern windows, in a wall running east and west, will have a very deficient supply of sunlight. It is best to place the house so that the *corners* will indicate the four cardinal points, and the *faces* will look to the south-east, south-west, &c.

SOME POINTS IN CONSTRUCTION.

The doors of the schoolhouse ought to open outwards towards the street, to prevent a block in case of a panic, such as an alarm of fire occasions. With the same view, it is necessary, in the case of a large school, to make them from eight to twelve feet wide. One such door should be placed close by the foot of each staircase, if possible directly in front of it. The doorway should always be wider than the stair that leads to it.

The entries and corridors must be spacious relatively to the stairs, especially at the foot of the latter. In large houses, a width of ten or twelve feet is required. They should be lighted directly from out of doors when possible; and the lights should be placed at opposite ends, so as to insure a free natural ventilation, which on many days of the year, even in winter, is the best for entries. It is hard to ventilate entries that occupy the centre of schools; while entries or corridors that possess a natural ventilation furnish a desirable means of supplementing the defects of the air in rooms.

The staircases should be fire-proof, that is, isolated by solid brick walls on three sides if possible. Like the entries, they must be lighted from the outside. There must be at least two staircases for a building containing six hundred scholars; and some architects will consider three necessary. The width must be at least six feet in the upper story, and eight in the lower; and the height of the steps must not be too great for young children. Spiral stairs are inadmissible, for the steps are very narrow next the well, and if the child falls on the stair the descent is very steep on that side. Wedge-shaped steps are inadmissible for the same reason, though common in private houses. Wells are dangerous, if not protected; the staircases should be sheathed; banisters are totally unnecessary, and the rail should be about four feet above the riser. A stair which ascends the height of a story without a break is not desirable; one or two landings should be introduced to furnish a momentary resting-place.

A clean, dry cellar is a suitable place for playrooms, provided the sunlight and air enter freely. If the ceiling is high, a gymnasium may be placed there, under the same conditions as to light and air. The floor of such rooms should be of hard stone or face-brick, in order to avoid the dust which comes from softer materials. It is well also to set the stone or brick in cement, and to cement the walls, for dampness must not be permitted to exist. An excellent but costly device for floors, lately introduced, consists of damp-proof layers of asphalt and cement in both the floors and walls. No schoolroom ought to be in a cellar, or even partially underground.

The first and the second stories may contain all the schoolrooms; the third, a large hall for daily assembly, and other rooms for cabinets, libraries, laboratories, drawing, music, &c., if required. It is very desirable to restrict schoolhouses to this height. School-girls in their teens suffer from having frequently to climb to the third or fourth story. The fatigue and annoyance tell upon them; and they are apt to be unwilling to descend for recess, and so lose the benefit of the outer air, while the rooms, in the mean time, cannot be properly aired out during their presence in recess-time.

Other points in construction will be mentioned farther on.

Ventilation and Heating.

The requirements under this head are the following: —

1. Renewal of the air of the room, effected constantly and without perceptible draughts, at the rate of at least two thousand cubic feet per hour for each occupant.

2. A temperature not exceeding 70° nor falling below 64° at the level of the head of a person sitting, and not varying more than about 4° in different parts of the same room, or at different heights within six feet of the floor.

3. Freedom from noxious elements.

To effect a sufficient change of air without producing a draught, there must be a liberal allowance of space per scholar. A small room, as for example a low-studded parlor of moderate size when full of company, can hardly be kept in a comfortable condition; the alternative is between a dangerous draught and an excess of heat with stifling closeness. In practice, a room containing 250 cubic feet of space per occupant can be readily ventilated without draught. Such a room allows 20 square feet of floor-space to each pupil, and has a height of 12½ feet.

The minimum cubic space to be allotted to each pupil is variously stated, as follows: —

Professor Kedzie, Michigan State Board of Health (for even small scholars)	300	c. f.
A. C. Martin, in Report, Massachusetts Board of Health	220	"
Sanitary Report to Philadelphia School Board, 1875	200–300	"
Committee of New York Medico-Legal Society	150	"
A large number of German States,* ranging from	120–284	"
Vienna and Lower Austria	150–180	"
Varrentrapp, for young scholars	145	"
" " older scholars	195	"
New York City Board of Education *	70–100	"

In an ordinary schoolroom there is nothing gained by making the ceiling over 14 feet in height: 12 or 13 feet is sufficient. In a large hall it is necessary to exceed this for acoustic and other reasons.

The question has been debated, whether a given number of small children require less space than the same number of larger children. The answer given may be based on the fact that children of 8 years consume much less food than those of 14, and must, therefore, discharge a smaller amount of effete material through the various channels for elimination. Both ages are characterized by great muscular activity; and in both, therefore, the discharges by way of the breath and perspiration are considerable. Probably the boy of 14 requires as much space and as much air as the adult; the boy of 8, somewhat less.

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* The school accommodations in New York are very inadequate, under the pressure of the new compulsory education act. The minimum there adopted leaves the schools greatly overcrowded, but is, nevertheless, a considerable improvement over the former state of things. In Brooklyn, in an examination made in 1877, two rooms were found containing an allowance of only 15 cubic feet and 2 square feet of floor-space to each scholar. — As regards German schools, they are generally stated by visitors to be very badly ventilated. Pettenkofer allows a fresh supply of air *per hour* of only 12 to 15 metres per head in schools, while in halls for ordinary assemblies he names 30, and in ordinary workshops 60 metres = 2,100 feet) as the proper hourly supply.

Temperature. — Dr. Varrentrapp says that "a thermometer distant ten feet from the stove and five feet above the floor ought not to mark over 15° R.," — that is, 65¾° Fahrenheit. Ficker states 14° R. (= 64° F.) as the proper temperature. Morin * says, "In well-ventilated places, with a constant change of air, higher temperatures can be easily borne, and even be found pleasant, than those which would be found oppressive where the air is not changed. Nevertheless the internal temperature should not be kept above the following points: —

Nurseries, asylums, and schools	59°
Workshops, barracks, prisons	59°
Hospitals	61-64°
Theatres, assembly-rooms, lecture-halls	66-68°."

Upon this point, therefore, authorities differ somewhat. In general, Americans and persons past middle life seem to prefer a higher temperature than that which Europeans or young people think agreeable; and among ourselves there are some who prefer 80°, while others are best suited at 64°. It is to be hoped that this liking for excessive temperatures is not an essential feature of our national character. I have seen school-children comfortable at 66° in a well-aired room, and believe that this would be the rule under proper conditions. Of course, children ought not to sit with wet clothing or feet in a cool room. Children who are badly fed will not resist cold well; nor those who are pampered, or prevented from getting exercise. And any person, child or adult, may become tender and delicate in a short time by accustoming himself to an over-heated room. It is very hard, in a changeable climate like ours, to avoid the latter evil: in most houses there is placed a powerful heating-apparatus, which cannot be made to "roar gently" when the weather moderates; and a set of gas-burners is used which raises the temperature several degrees. Attention to the temperature of a house, in our climate, implies quite as much a care for coolness as for warmth, during the changeable spring and autumn weather. And, when it comes to the practical working of a schoolroom, it is very easy indeed to let the temperature exceed a reasonable point, but requires constant attention to keep it down. An interesting lesson may be going on, or a written examination: the mind works well, for the time, at a fever-heat; and the temperature of 84° may pass quite unnoticed. It is needless to say that such a strain upon the system is followed by a period of lassitude; and a state of lassitude, again, may demand a slightly-raised temperature. Thus by degrees habits of preference for hot rooms may be formed. The teacher may be as unconscious of the evil as the scholar; indeed, if fatigued she may require, or if excited may not notice, an unusual heat.

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* See Annual Report of Board of Regents of Smithsonian Institution for 1873, p. 314.

The time to correct bad habits in this respect is the beginning of the school year. Every one then comes to school with a system invigorated by some months of exposure to fresh air; and, if care is taken, this vigor, or power of resisting cold, may be retained. The teacher may assist by causing the children to take frequent exercise, — play, with running and shouting, is the best, — and to go out of doors frequently. If it rains or snows, windows may be opened a little, while the children are engaged in active bodily exercise, such as calisthenics. These intermissions should occur as often as once every hour, and last five minutes at a time, or longer. Weakly children, those liable to croup or rheumatism or other complaints arising from exposure, must be protected meanwhile; but the fact remains, that the power to perform work, the power to generate heat, and the power to resist catching cold, are all improved by frequent vigorous use of the muscles and lungs.

Singing constitutes an excellent exercise for the body, as well as relaxation for the mind; but I have seen it carried on in a room set apart for the purpose, and so closely packed and badly ventilated that it was difficult to remain in it. It hardly needs to be said that that which sets the lungs in vigorous action implies and demands an abundant supply of fresh air; and that to perform exercise in close rooms is more exhausting than to sit still.

The personal influence of a vigorous and full-blooded master may be very beneficial in correcting the errors of subordinate teachers in these respects.

Apparatus. — "Every heating-apparatus or system of heating which does not provide in itself for an ample and regular change of air, or which is not connected with suitable arrangements for such a change, is injurious to health." These words, quoted from Morin, are axiomatic. They condemn a great variety of appliances, some of them the most popular. Most systems of heating in which coils of pipe stand in the rooms or entries are included in this condemnation. Every such coil should have its special duct, flue, or hole in the house-wall, for the introduction of a due amount of fresh air. The air thus introduced should enter a box enclosing the coil of pipe, and after circulating about the coil is to be discharged by a register into the room: this arrangement is equally correct, whether the coil be placed in the chambers, or whether (as is often done in schools) the boxes, containing the coils, are placed in the cellar like the hot-air box of common furnaces.

This provides for the introduction of a considerable amount of warm air: it is now necessary to think of the extraction of vitiated air.

A schoolroom cannot be ventilated in winter — and scarcely in summer — without special flues for the purpose. An ordinary air-tight stove carries up the chimney enough air to ventilate for one person; an open fireplace, enough for a dozen, or less. With the aid of partly opened windows, the fire on the hearth will answer perfectly; but it is very wasteful, and has the disadvantage of being at one side or end of the room, so that some parts may be cold while others are too warm. It is apt, also, to leave the floors cold. We may therefore assume that this mode of heating will not be largely used. If, however, a chimney is connected with a room, the fireplace should not be stopped up, unless it should happen (as it will sometimes) to give ingress to disagreeable currents of cold air. A little fire on the hearth, or a gas-jet burning high in the chimney, or even a lamp placed in the fireplace, will keep up the draught; and the chimney, if not used for the escape of smoke, may carry off foul air.

In most large schools, as now built, flues are connected with each room. Until lately such flues were almost invariably too small. For a class of fifty pupils, requiring 1,700 cubic feet per minute, the united transverse sections of the flues should equal five square feet, or more. There should be apertures or gratings, both at the top and bottom of the wall. The air at the top is usually quite as bad as that at bottom, and is apt to be warmer too: ventilation from the top, therefore, is desirable in summer, though in winter it may be thought too wasteful of heat to rely entirely upon it.

Nature has been very kind to man in one respect. The poisoned air from the gas-jets is taken to the top of the room, by its ascensional force, away from our persons. If a man were compelled to spend an evening with his head close to the ceiling, he would be ready to make his will at the close of it. It would be a natural method of ventilating, to make a sufficient opening at top, and let the air rush out; but this method would waste heat, and would leave the lower strata of air cold. Leaving out of consideration the gas-jets, as seldom used in day-schools, we may consider that the breath of the pupils is diffused through the whole mass of air in a room, a little more at the top than elsewhere. This slight excess at top being disregarded, we may endeavor to cause the entire mass of air to move downwards, and to pass out through ventilators at the level of the floor. Thus we may succeed in keeping all the air pure except the very lowest stratum, that about the feet; the animal exhalations passing directly downwards through the registers. This feat is accomplished by the system of Morin (Mr. A. C. Martin has applied it in Boston and elsewhere), which employs numerous branch-ducts under the floor of each room, opening by little gratings in the floor at various parts of the room. At the same time, a very large quantity of fresh air, moderately warm, is introduced at the top of the room, obviating the necessity of opening windows or doors: the latter expedient, as is well known, cools the floor of the room first, which is the reverse of desirable.

The proper temperature at which to introduce the supply of fresh warm air is not definitely fixed. According to Morin, it should generally be about that which it is desired to maintain in the room, as soon as the latter is sufficiently warmed. In the climate of Paris, however, where Morin writes, the winter's cold is much less severe than with us; and, to make up for the increased loss of heat by radiation through walls, we are obliged to introduce air at a considerably higher temperature than 65°

or 70°. But we certainly waste a great deal by not providing double windows. By thus protecting a room, we should avoid dangerous draughts on the window-side, we should equalize the temperature of the two sides, and prevent chilling of the floors. It is obvious that in a room thus defended and equalized, not only less heat is required for absolute warmth, but that a lower temperature is called for by the sensations of the inmates.

If a room is made comparatively air-tight by double windows, provision must be made to make up for the supply previously entering by the cracks; and that is to be effected by increasing the amount of air delivered by the registers to the amount required for total consumption, or by various devices such as are elsewhere mentioned.

Whether registers for warm air should be at the floor, or near the ceiling, is not to be decided peremptorily. It is well, at any rate, not to place a register so that its contents can pass directly out by a ventilator, nor so as to strike directly upon the scholars.

Water should be evaporated in the hot-air box; for, whatever may be the theoretical ground for this requirement, it seems to be justified by the result. Air to which a little vapor of water has thus been added is usually pleasanter. I do not feel convinced that a condition in which the air contains seventy per cent of its full capacity for moisture is required for health. For some persons this degree of moisture seems to be desirable: for others a much dryer air is found salutary. Upon this point the words of surgeon John S. Billings * may be quoted: —

"In rooms heated by warm, dry air, the sensations of discomfort which many persons experience, such as headache, &c., may be relieved by the addition of a small quantity of moisture to the air, for instance, about 5 per cent.

"At first sight this would seem to prove that the uncomfortable sensations were due to absence of moisture; but nearly the same amount of vaporization is desirable in air heated from any temperature and therefore varying greatly in the absolute percentage of moisture which it contains. Moreover, in very dry and warm climates, such as that of Arizona, these uneasy sensations are not present.

"It seems to me probable that in the majority of persons these sensations are due to insufficient supply of fresh air, rather

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* Johns Hopkins Hospital: Report on Heating and Ventilation

than to want of moisture, and that the effects of vaporization in relieving them may, in part at least, be explained as follows:

"In a room heated by hot air from a furnace, or set of steam radiators, all the fresh air for the chamber usually passes over the heated surfaces, and enters the room at an average temperature of 180° F. If the quantity of fresh air required for satisfactory ventilation be admitted at this temperature, the room soon becomes unendurably hot, and to prevent this the amount of incoming air is diminished by partially or entirely closing the register.

"Now, if in front of the register be suspended a porous earthen vessel containing water, or wetted cloths, or a large sponge saturated with water, rapid vaporization is the result; and a large amount of heat is expended to effect this.

"The result is that the incoming air is cooled, and a much larger quantity can be admitted without discomfort. In rooms and passages heated by direct radiating surfaces such as steam-coils, this feeling of discomfort is very common, and is mainly due, I think, to the insufficient ventilation which is usually found in such places.

"I have never myself found it to occur in rooms having an ample supply of air at a proper temperature, however dry the air may have been; but Mr. Briggs * and others state that they have so found it, and under such circumstances I can suggest no satisfactory explanation."

Every system of flues for drawing air from rooms should be provided with means for heating them, or with a fan for expelling the air. The application of heat to the flues is made in various ways. Sometimes a special furnace or stove is put into the flue; sometimes the smoke-pipes from the heaters or furnaces are led through or by it; sometimes coils of steam or water pipes are introduced, or gas-jets. A draught, in many cases considerable in amount, is obtainable in the lower stories, even without heating the flues; it is a familiar fact that a tall chimney will often draw when not heated. But this source of power for ventilating purposes cannot be relied on. Neither is the action of the wind upon ventilating mitres, placed on chimneys, at all a constant one. The simplest method of ventilation, approaching to thoroughness, is that by heated flues. It is ex-

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* On the Relation of Moisture in the Air to Health and Comfort. — *Jour. of the Franklin Institute*, January and February, 1878.

pensive, unless the heat from the smoke-flue be utilized; but it can be easily understood and managed, and is fairly satisfactory in its results.

If steam-power could be had in a school, it would be worth while to use a fan to force warm air, in great abundance, into all the rooms. This would probably effect a great economy.

The best system yet adopted in schools requires a good deal of watching, and cannot be intrusted to the sole care of a janitor. It is for his interest to appear economical of his coal: he is therefore under a constant temptation to check the outflow of warm air from the rooms, and to limit as much as possible the period of airing-out, which should come daily after school. Good ventilation is an end which cannot be gained without the expenditure of much fuel; for the *foul* air, thrown away, is *warm* air, and the heat it contains is necessarily lost.

Great economy of fuel could be attained by introducing double windows. A single thickness of glass cools the air enormously; and, if one is sitting under it, a draught of falling cold air is felt which is both real and dangerous. This draught is not due to the entrance of cold fresh air, but is produced by the chilling of a layer of warm air in contact with the glass, which naturally falls to the level of the floor. Another use of double windows is that of direct ventilation. Let the lower sash *outside* be slightly raised, and the upper sash *inside* slightly lowered; air will then pass between the two sashes, and will enter the room near the ceiling, having in its passage over 6 feet of glass (inner window) received a good deal of heat from the room, and being therefore partially warmed before entering.

One of the simplest remedies for bad air is to fit a board, of the breadth of 3 or 4 inches only, under the lower sash (of a single window); this shuts out no appreciable amount of light, and raises the sash so that, between its upper part and the lower part of the upper sash, a current of air is admitted in an ascending direction. This plan is extremely cheap, and may be used anywhere; it is quite effective in cold weather.

Another plan consists in placing a narrow board at the top of the upper sash, tilting a little inwards so as to let the air pass over it and strike the ceiling.

If it be desired to use an open fireplace, for the sake of the cheerful effect, a great saving in fuel may be effected, amounting to a reduction of at least one-half: an ordinary fireplace loses 86 per cent of the heat generated, while Galton's loses only 65 per cent. In this arrangement, the air is introduced from out of doors by a tube to the back of the fireplace, and, being there heated, is discharged into the room by a register. The fire, and the smoke in the flue, are compelled to part with a good portion of their heat, which would otherwise be thrown out from the chimney.

The best form of furnace, on purely sanitary grounds, is probably that built of soapstone, in which the flame and smoke come in contact with stone and lime only, through which no gases may be expected to escape. Such a furnace takes some time to heat, and is slow in cooling. The stoves actually in use are almost always of iron, usually cast-iron. It is well known that cast-iron permits the free passage of carbonic oxide through its pores, when at a red heat: a certain small amount will pass at a point below red heat. Carbonic oxide (C O) is produced in considerable amount in the burning of anthracite in furnaces, and is one of the most dangerous poisons. When largely diluted with air, its effects may be limited to the production of headache, a sense of oppression of the faculties, constriction of the chest, and difficult breathing. The gas has no smell; but its presence may be inferred with probability when the odor of sulphur is noticed, though this accompaniment is not a necessary one.

Carbonic oxide does not penetrate through the substance of wrought-iron. If, therefore, a wrought-iron furnace is thoroughly made, it is preferable. But either kind may be open to the objection of heating the air too much; a small furnace with a brisk fire, doing duty for a large house, heats a small amount of air very hot, and in doing this produces a change of some sort which is felt as disagreeable. A peculiar burnt smell, a deadness in the air, announces that something is wrong. The smell may be merely due to the burning of particles of dust in the air, but it produces discomfort, and cannot be regarded as a wholesome condition. This fault may be avoided by using a large furnace which burns slowly.

Too much care cannot be taken of the inlets for fresh air. They usually consist of wooden or galvanized-iron tubes, running across the cellar to the hot-air box. If of wood, they are sure to have cracks, which let in more or less of the cellar air. Many are expressly provided with valves for drawing a supply of air from the cellar; a proceeding which is entirely indefensible. For the cellar is presumably weather-tight; and where is the air to come from that enters the inlets, in case they are closed against the outer air? The air comes directly from the cellar, and may possibly be free from local contamination; but it comes eventually from the rooms and halls above the cellar, — from rooms already full of vitiated air, — and the result is the establishment of a vicious circle; bad air descends into the cellar, is warmed, re-ascends, and re-descends.

It may be permitted to draw air from an empty cellar chamber which is cut off from the rest of the house and cellar, and which cannot possibly be contaminated by dust, ashes, the gas from the furnace-door, or other sources; a chamber, in short, which is perfectly sweet and neat, and supplied with air directly from out of doors. But it is a shorter way, to exclude cellar air altogether. The real motive for using it is usually that of economy of fuel, — an economy which implies the use of poor air.

The inlet for air should be protected by being placed out of boys' reach; and in any case it should be a few feet from the ground, above the level of street or ground effluvia if possible. Its orifice should be grated or screened. Dust may be sifted out through a canvas bag or tube; but, as this will rarely be applied, I would recommend the choice of a place not exposed to dust.

If a stove is set up in a schoolroom, it ought to have a flue leading out of doors, through which pure air should enter, and come in contact with the heated iron or stone. The stove should be boxed or sheathed around with iron or tin, forming an air space, into the lower part of which the above flue should open: a powerful current of *fresh warmed air* would thus be drawn into the room. The stove-doors should of course be excluded from this box; and the draught for supplying the fire should come from the general atmosphere of the room, thus extracting a certain amount of bad air. Further ventilation could be obtained by sheathing the stove-funnel, and making the space between sheath and funnel open *upwards* above the roof, and *downwards* into the room: by judicious arrangement of these expedients, a considerable change of air is effected. They constituted a portion of the ventilating apparatus of the schoolhouse exhibited in Philadelphia in 1876 by the Belgian government.

The ventilation of evening-schools is made difficult by the presence of smoke, greasy vapor, sulphurous acid, and other products of the combustion of oil or gas. A well-managed kerosene-lamp is not often seen in public buildings, but would be both the cheapest and the least injurious. Burning gas produces a suffocating air, due to the presence of impurities which cannot be wholly got rid of. Tallow candles are not advisable. When lighted artificially, a room should have the upper ventilators open and in vigorous action.

The air of a school ought not only to be free from excess of carbonic acid when analyzed: it should smell fresh and sweet. Many schools, even of the best class, are characterized by a peculiar foul smell, like that which clings to the bars of gymnastic apparatus, and betraying the fact that the floors and other woodwork are saturated with the more or less volatile products of animal decomposition arising from the perspiration, breath, saliva, and the countless scents brought in the children's clothes from the domestic fireside. To avoid this evil as far as possible, it is recommended to select wood that is not porous. For the floors, hard pine, saturated in hot linseed oil before laying, will give a surface nearly impenetrable to moisture or vapors, which dries instantly when washed, and is very durable. Schoolhouse floors ought to be washed with soap and hot water at least once a week, and the wainscoting, walls, and furniture occasionally. The cellars require scrupulous care.

Dust should be avoided as far as possible, by providing door-mats and scrapers. The children's outer clothes and umbrellas should be put in special rooms or wardrobes, which are lighted, warmed, and furnished with sufficient ventilation to carry off the steam and odor. Clean faces, hands, and shoes should be required, and clean feet when shoes are not worn.

In general, no system of heating and ventilation has been devised which will work automatically, without supervision on the part of the teacher or engineer. In other words, it takes brains, as well as coal and iron, to ventilate a house. The required article is not generally to be had for the sum paid. I think that head masters, with a certain amount of instruction in the details of management, are better persons to have the *responsibility* than janitors; but it would be still better to improve the quality of janitors, and to bring them under a strict supervision by sanitary officers or committees.

Further, a large house is found in general more difficult to ventilate than a small one of similar construction, especially if there are four stories. High winds will often interrupt ventilation; the neighborhood of lofty dwellings or hills may interfere. Flues designed by skilful architects will sometimes draw downwards instead of upwards. Chimneys smoke, and furnaces give out coal-gas from the mouth, and steam-pipes freeze and burst. All these baffling circumstances, let it be said in concluding the subject, occur in accordance with law; and all admit of remedy or prevention.

SEWERAGE, WATER-CLOSETS, ETC.

There is no doubt that in many schools in our State the condition of the sewerage is such as to endanger health. The writer's correspondence * with numerous physicians last year elicited a number of strong expressions of opinion, which ascribe to neglected drains and privies the origin of debility and indigestion, of a state of lessened activity, of low continued or typhoid fevers, and perhaps of diphtheria; also of catarrhal disease of the respiratory and digestive organs, and of dysentery, as the direct result of exposure to cold in privies.

It is often hard to estimate the amount of simple ordinary debility due to a slowly-acting cause, constantly present. That such debility may be produced by ordinary stinks, by living in an air containing fæcal odors simply, is certain; and from this debility up to the production of headaches with slight fever, or of violent, even rapidly fatal cases of typhoid, there are all possible gradations. Yet the danger often lies far more in that which is not offensive, — in the air which contains sewer-gas, hardly noticed by many; in the sparkling water which pleasantly disguises the dose of liquid ordure taken at recess-time. The connection of scarlatina, diphtheria, dysentery, and diarrhœa, with foul odors and bad drains, is now admitted to be a fact, though not always a traceable one.

A water-closet is a contrivance for disposing of fæcal matter by "water-carriage," in distinction from the privy or dry-removal system. It usually is found in our schools to be (1) a pan-closet, with a handle, which when raised empties the pan, and

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* In pursuance of an inquiry made for the Massachusetts State Board of Health, the results of which were published in its Report for 1878. The five succeeding pages of the present report are borrowed from the report just mentioned.

lets in fresh water; or (2) a hopper-closet, without the pan, and often provided with automatic apparatus for discharging water into the hopper; or (3) a simple trough of masonry and cement, filled with water, which is frequently renewed. These are the chief varieties. The latter kind has lately been introduced into many large schools, and in some cases it is certainly free from objections. It must, however, be placed in the cellar or basement, in order to prevent freezing; and it is evident that in such a situation it may become a dangerous nuisance. To insure protection, it must be built of masonry cemented, and must slope gently towards the outlet: there should be about it as little woodwork as possible to absorb urine; and the water should be abundant, and changed every day with a good flushing afterwards. The sides should be cleansed at the same time with a jet of water. The space under the seats should be ventilated by a large pipe or pipes led to a flue which does not communicate with the rooms, and which opens above the roof, far from windows: the flue ought to be provided with some means of securing a draught, either by heat or otherwise. It would be proper to lead such pipes to the common chimney, if we could be sure of a fire there all the school-year; but such chimneys often communicate with rooms by fireplaces or ventilators, and, during the month or two when fires are not kept up, it is unsafe to have such an open connection between the vault and the schoolrooms.

The cellar, also, should be watched, and a constant change of air obtained by opening windows according to the weather. There are two reasons why bad air in cellars is specially dangerous to the inmates of schools: (1) because the furnaces are often supplied in part with air from the cellar, which is breathed the next minute in the schoolroom, the air-tube often having a slide expressly intended to admit cellar air, and, even when this bad custom is not observed, the joints of the wooden tube being very apt to be loose; (2) because, independently of this, air has a strong tendency to rise from the bottom to the top of a house, passing rapidly even through floors and ceilings, so that cellar influences are nearly sure to be felt in the rooms.

As regards the other forms (pan and hopper closets), there are certain faults to be spoken of. A pan-closet presents many surfaces on which the discharges can collect: the stream of water is often too weak even to clear out the visible accumulations, and in some cases altogether fails to reach those at the back of the pan, &c.; so that, if not washed, it is apt to be offensive. The chief objection to the pan-closet, however, arises from the small chamber of foul air between the pan and the trap below it. A hopper-closet need not be open to this objection, provided the jet is *abundant and well directed.* One or two of these may be placed, if desired, in each story and in the cellar; but each ought to have its window opening to the outer air.

For perfect ventilation of such places, nothing is better than a tube, leading to the chimney or open air, or one in the lower part of which (at a height of, say, three feet from the floor) a gas-jet is kept burning, giving rise to a current upwards: the gas may be made useful for light by inserting a pane of glass in the side of the tube. It may be well to add, that *wooden* tubes, traversing several stories, assist the spread of fire in a building.

Many schools, including some in country towns, report the presence of small water-closets in the first or second stories. If care be taken that these are well aired and cleansed, they are not objectionable, but positively desirable, in these situations. There is no doubt that girls especially require some such accommodation, as in a large class there will always be some who ought not to be exposed to the weather, nor to be forced to go up and down stairs unnecessarily.

In some schools, water-closets, apparently of the pan variety, are placed in the cellar, in number sufficient for the wants of the whole school. These will require at least as much watching as the water-vault closets above described. In planning a cellar, all such conveniences should be placed in an apartment strictly separate from that containing the furnace or the playroom, and should have access by windows to the outer air.

The necessity of interposing some obstacle to the rise of gas from sewers, through soil-pipes, into houses, has become generally known to the public. An S-shaped bend in the pipe, if placed in a proper situation, and if the soil-pipe is properly ventilated, will answer the purpose: there are various other contrivances, all equivalent to simple reservoirs of water, placed so as to intercept upward currents of gas, which need not be described here. But, whatever be the arrangements for trapping individual basins or closets in upper stories, it is essential that the main soil-pipe should be trapped before it leaves the building, at a low point, i.e., in the cellar. All soil-pipes should be easily accessible, should be in plain view or protected by simple removable wooden boxing, through their entire course. If enclosed behind lath and plaster, or sealed up under a cement floor, their defects cannot be discovered without great trouble and expense. The best plumbing in the best-built houses is extremely liable to injury from slight settling of foundations, from corrosion, frost, or rats; and injury to health may result before any strong odor is detected.

An earth-closet consists of a portable box, with a lid like that of a common water-closet, and worked by a handle in a similar way, only that the pulling of the handle throws a quantity of powdered and dried earth over the deposited matter, instead of sending a jet of water. The earth absorbs the odor in a nearly perfect manner, if it be well dried and powdered; sand will not answer the purpose; charcoal in powder is the best of all. No disinfectant is needed. The apparatus can be safely used in the house, when water-closets are not practicable: it is reported as giving satisfaction by two of the correspondents, but always requires a great deal of care in its management, in order to prevent the occurrence of bad odors.

A privy is a non-portable arrangement, in which the fæces are not deposited in water, but in a vault or other excavation, or on the natural surface of the ground. The privy can never be approved as wholesome: it is capable of injuring the health in many ways. In the commonest form in which it occurs in our country schools, the filth is either thrown upon the surface of the ground, in which case the person is dangerously exposed to cold air; or it is thrown into a pit, where it accumulates usually for a year at a time. A cheap, convenient, and wholesome substitute for this familiar nuisance is to be found in the "pail-closet," as described in the Report of the State Board of Health for 1876, p. 182, in which a pail made of half of a kerosene-oil barrel is placed under each seat, and the contents removed every week for a fertilizer. At the bottom of the pails a layer of ashes, or of dry earth pulverized, is first laid; and a sufficient amount, say a pint or more, of the same should be thrown in after each time of use, taking some little pains to cover up all deposits. Of the present usual form of privy, we quote the following from pp. 184, 185, of the report already referred to: —

"It may be said that the simplest and cheapest of those privies, one much in use in the small country towns, involves the minimum of annoyance and risk, since whatever fæcal accumulation occurs is all on the surface, and is in such free communication with the outer air as to be rapidly dried and disinfected. But at the best it pollutes the soil beneath more than is suspected. It is not cleared out one-tenth as often as is needed, and it exposes those who use it to the inclemencies of the weather to a dangerous extent."

Privies upon the pail-system, properly cared for, need no other disinfectant than that here mentioned, viz., dry earth or fine ashes, except perhaps in the hot weather of midsummer. Privies of the old-fashioned country sort cannot be properly disinfected; for the greater part of all their contents will soak in and contaminate the soil to an indefinite extent, sometimes to a distance of many rods: in one case, filth was traced in the soil for a distance of nearly a mile. No well in their vicinity is safe. In the article on "Health of Towns" (Report of Board of Health, 1878) an instance is given where a well used for drinking was located under a schoolhouse, at a distance of thirty-five feet from privies: a chemical examination showed the presence of unchanged excrement in the water of the well. Even a vault of masonry is not always free from cracks, nor are its imperfections likely to be discovered while it is in use as a privy.

The impression seems almost universal, that the earth destroys all poisonous matter as soon as it soaks in; an impression which is practically and most dangerously false. The greater number state that they are emptied once a year; and this seems to be thought often enough. One-fourth of the whole number, however, state that the arrangements are "the source of offensive odors;" and no one can doubt that this is an understatement of the fact.

A privy under the same roof that shelters the school ought not to exist for a moment. It is true that delicate children ought to be spared exposure; it is true that the fear of exposure in winter, or a natural shrinking from the foulness of ill-kept privies, leads many little children to conceal their natural wants to their bodily harm. But provision for such cases can be made in small country schools by the earth-closet; in large schools there should be a few water-closets, and the main outhouse, when there is one, should communicate with the school by a dry covered way. Most children will require to visit the place once in the school-day, and it is not right to turn them out of doors in all weathers for the purpose. This point is almost universally neglected.

Boys and girls should not have to use the same privy. There ought to be two buildings, and not one divided by boards into two parts: a board fence should separate the two sexes in going and coming; and, where present arrangements are bad, the boys should have their recess at a different time from the girls. To insure decency, and to check immorality, a trustworthy monitor might be appointed not only for recess, but to accompany every child who goes out during school-hours.

A *large* receptacle may serve as an excuse to neglect frequent cleanings; and the absence of an outlet, and of a water-supply to flush the vault, would make any such structure objectionable. Storage of fæces in a concentrated form must be an evil: otherwise cement and brick are certainly desirable elements in the structure.

The following instances of vault-construction are selected from the correspondence, as illustrative of existing vaults. One is described as "inclined, with a drain-pipe from one corner of the schoolhouse entering the upper end, so that each rain washes the vault," while of another, it is said that "the water from a large reservoir can be discharged through the vaults weekly, carrying the contents into a sewer." Both of these may perhaps be defended as being the best arrangements attainable under the circumstances; but they should nevertheless be utterly condemned as unsuitable substitutes for daily direct flow into the sewers.

In a school for one hundred children, there were two privies (and no water-closets) in the cellar; "the solid matter was carried into a cesspool forty feet from the building, by water from roof and from sinks in cellar." Such a water-supply would naturally be uncertain: we should expect to find, as is stated, that the privies are "not in good condition at time of examination, and the means employed for removing contents does not appear to work at all times efficiently;" and, although there are no odors detected in the schoolrooms, the house cannot be regarded as safe in the state described.

Urinals ought to be provided for boys' schools, and washed daily with soap and water. The proper materials for the exposed portions are either slate, glazed ironware, or glass. Metal surfaces corrode, and retain the decomposed urine; paint is not a sufficient protection.

DISINFECTANTS. — The best and cheapest are, fresh air and sunlight; water, both for dilution and for washing; earth, for covering solid discharges from the body; dry heat (200–240° F.), for clothing that has been exposed to the effluvia of disease.

To these add the following chemical disinfectants: Sulphur-fumes, produced by burning in a tightly closed room or house, in infection; a solution of sulphate of iron (three pounds) and carbolic acid undiluted (one pint), in water (a pailful), for foul vaults; solution of chlorinated soda, or of nitrate of lead (one part to eight parts of water), or of permanganate of potassium (one per cent.)

CONTAGIOUS DISEASE.

The opinion seems to be well grounded, that schools occasionally constitute a medium for the transmission of contagious diseases, and that grave consequences may result from neglect of precautions in the presence of one or more cases of such disease in a school.

In regard to small-pox, varioloid, and scarlet-fever (scarlatina is the same), there can be no question as to the necessity of the greatest care in isolating patients; the diseases being at once very dangerous to life, and extremely contagious. In regard to other diseases of the same class (zymotic), some degree of difference of opinion may exist among medical men as to the need for isolation.

The following rules for preventing the spread of contagion in schools are made as simple as possible to meet a variety of cases; they are taken from the author's paper in the Report of the State Board of Health, 1878.

Rules for Preventing the Spread of Contagion in Schools.

1. A certificate of vaccination is to be required of every child entering the public schools, as is the law now in Massachusetts.

2. Physicians to be required, under penalties, to report to local Boards of Health all cases of dangerous infectious diseases observed by them, the Board to inform principals of schools.

3. The existence of any case of such diseases in a house, to exclude the inmates from attendance at schools, for a sufficient length of time; the propriety of re-admission being certified to by a competent physician.

4. Disinfection of premises and clothing, by the Board of Health, in every house where the above diseases have prevailed.

5. Medical authority to be designated, for the purpose of advising teachers and pupils, and pointing out to the school committee matters in regard to which their authority might be used to improve the sanitary condition of schools.

Hygiene of the Eye.

It is generally known that school-work is often associated with impaired sight. This impairment consists in most cases of the development of near-sight, or myopia. Most children at the age of 5 or 6 have "normal" vision ; a moderate percentage are far-sighted, and a much smaller proportion are near-sighted. This is the case, at least, in America. But, as the age increases, a regular increase in near-sight is observed among school-children in various parts of the world, as Germany, Russia, and the United States. Far-sight is correspondingly diminished, in most cases, while the number of normal eyes is greatly diminished. In Erismann's examinations in St. Petersburg, the results were as follows: Number of eyes examined, 4,358: percentage of near-sighted eyes in the youngest classes, 13.6; in oldest classes, 43.3. In Conrad's examination in Königsberg, the number of eyes was 3,036: percentages of near-sight in lowest classes, 11.1; in highest, 62.1. In the table of Drs. E. G. Loring and R. H. Derby of New York, based on 2,265 eyes, the corresponding percentages are 3.5 and 26.78. The period of time covered by these statistics is that between the ages of 6 and 21 years.

These statistics are confirmed by a great number of others, covering, in all, over 20,000 children in Germany and America. They seem to show, that, while the Germans are a much more near-sighted race than our own, the same condition of things exists among ourselves to a limited extent, and due to the same causes.

In Germany, Cohn found, that, while in village schools there were only 1.4 per cent myopic, in the city schools of a corresponding age there were over 10 per cent. Erismann found that those scholars in the same schools, and under the same influences, who studied most, were most affected with near-sightedness. Of his scholars, all studied 2 hours out of school, some 4, some 6, and others over 6 hours. Of those who studied only 2 hours, there were 17 per cent near-sighted; of those who studied 4 hours, 29 per cent; while of those who studied 6 hours there were over 40 per cent. It is further shown by Cohn, that the rate of near-sightedness increases in proportion to the poorness of the light in the schoolroom, and the narrowness of the street in which the schoolhouse stands.

Several causes may thus be traced. In the first place, young children who are near-sighted are evidently so through inheritance. And near-sightedness in parents is believed by the most eminent authorities to be extremely likely to pass to children. Donders declares that it is "more especially proper to cultivated nations, and that, among the States of Europe visited by him, he nowhere, in general life and in cliniques, met with relatively so many myopes as in Germany." The same preponderance of near-sight is seen among the German children in New York, as compared with those of the native American or Irish stock. And, among barbarous tribes who do not go to school, the defect is almost unknown.

In the second place, residence in a city, with its limited prospects, has apparently some effect in causing myopia.

Thirdly, a bad light is one of the most certain causes. Of this I shall speak later in detail.

Fourthly, any thing favorable to congestion of the head; as, a bad position of the body, heat of the room, wet feet, indigestion, excessive length or severity of study without interruptions.

Fifthly, in the words of Donders, "the distribution of near-sightedness chiefly in the cultivated ranks points directly to its principal cause, tension of the eyes for near objects."

Sixthly, "peculiarities of food, indifference to ventilation, disregard of other hygienic requirements, want of out-of-door exercise, and a peculiar tendency towards a sedentary life, all of which are provocative of a certain *laxity of tissue*, and want of resistance in the investing membranes, which finds its expression in the eye, in a distension which is, in fact, myopia." (LORING.)

It is extremely important to see wherein the school and its occupations may act as a cause of near-sight, and what precautions can be taken against this result.

It is evident that the entire physical condition of the pupil is connected with the question of near-sight. Depressed general health, headache, narcosis from animal or mineral poison, excessive heat upon the head, or cold about the feet, contribute in various ways to weaken the power of the organ temporarily. Employed for study under such conditions of depression, it will naturally be held closer than usual to the book; and the result is in many cases the formation of a habit of reading with the eyes too near the object, — a habit tending to cause myopia. An imperfect light, or a bad position relative to the light, compels the scholar to hold the book too close to his face, with the same result. Long effort fatigues the eye, as it does any other organ, and supplies another inducement to looking closely.

All that has been said above is confirmatory of the principle, too seldom considered by those concerned, that *a near-sighted eye is a diseased eye.* The talk about "near-sighted eyes being strong" is false and harmful. The disease is as disabling, in many cases, as a club-foot; it is as real a deformity as a crooked spine. It cannot be fully remedied by glasses. It excludes men from a great many positions in active life, and lessens in women the quickness of perception which is their special gift and reliance. It is in a great many cases progressive.

The question of the production of near-sight in schools is one of the highest importance, and deserves to be considered with anxiety by every patriot. The reader will permit me, upon this subject, to copy certain remarks of Dr. Loring's: * —

"Are we in a position to declare, in the words of Ribot, with which we began these remarks, that 'since constant study creates myopia, and heredity most frequently perpetuates it, the number of short-sighted persons must *necessarily* increase in a nation devoted to intellectual pursuits'? This question can, at least at the present time, be answered only conditionally; and that is, that if, by a nation devoted to intellectual pursuits, we mean that compulsory education shall be carried out in the full extent of its original meaning, and applied to every child that is born, be it male or female, then I think the answer should be in the affirmative; and if Germany is going to be taken as the type, and every other nation desirous of intellectual progress be compelled to follow her lead as an example, then I am of the opinion that not only the educated classes, as the term is commonly understood at present, but that the world at large, will in time become near-sighted. We cannot, indeed, say that every man, woman, and child in Germany will eventually become myopic, simply because we have not as yet the necessary data to predicate such a conclusion with absolute certainty; but what we do know is, that, at this moment, 62 per cent and over of those who go through her public schools start, at the very threshold of life, with a condition of eyes which is usually equivalent to a disease, and one which at any time may not only impair the usefulness, but even lead to the destruction, of one of the most important organs for man's welfare — and not only for his welfare, but for his existence.

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* From a paper read before the American Social Science Association, and the County Medical Society of New York, 1877.

"We, as a nation, are at present more fortunate; and the fact just pointed out, that the normal eye is the predominating eye, by far, in every age of American school-life, is most encouraging, and would lead one to suppose that the anxiety which certain observers and writers have felt and expressed in regard to the future welfare of our eyes, as a nation, was uncalled for. . . .

"It must therefore be admitted, that, at first sight, the results gained from the American statistics as to the optical condition of our eyes, as a race, are very re-assuring. But on closer inspection it is seen that the ratio of increase from the lowest to the highest is greater in the American than in the German; that is to say, the ratio of 3.5 per cent to 26.5 per cent is a little higher than 11 per cent to 62 per cent. And the question arises at once, whether, after all, the difference existing between the two nations is not rather one of degree than kind, and whether, if we adopt the same method of education, and exact the same application of the eyes, we shall not, in a few generations, reach, if not pass, the amount of near-sightedness which the German statistics now present.

"It is, it seems to me, but a question of conditions; and it must be acknowledged, that, in some respects, we certainly do resemble the Germans. Next to them, I believe that, with the best market in the world, as a people we have the worst cooking.

"It is true that there has been latterly an immense improvement in this respect; but to this day we have, in the country towns, and largely too in the cities, the fried beefsteak, the saleratus bread, the strumous pie, and the air-tight stove.

"But, unlike the Germans, we have a fondness for out-door games as passionate almost as the English, and which we carry on with an ever-increasing devotion, in spite of the rigors of a winter which is almost arctic, and a summer which is truly torrid. Side by side in our upper schools, at least for boys, are two classes, — one that devotes itself principally, if not exclusively, to studious occupations, and one whose attention is turned chiefly, if not entirely, to athletic exercises; and, if the truth were known, I believe the conviction is growing in the mind of the community, if not in that of the professors themselves, that as great a benefit is accruing, and will accrue, to the race, from the training in one class as the other.

"Now, whether this devotion to athletic exercises, with its accompanying reduction in the amount of study performed by a considerable part of the community, together with a better understanding and enforcement of hygienic laws, will suffice to prevent an increase in the amount of near-sightedness, can only be told by future examinations made at long intervals. But my own belief is, that we have, in the example of other nations, sufficient evidence to show the danger which threatens us, even if the evil is not actually upon us, — evidence which should open our eyes to the fact that the amount of school-work consistent with a healthy condition of the eyes has not only reached its farthest possible limit, but, in many places, far exceeds it; and that, instead of waiting to see whether or not the amount of near-sightedness will increase, we should, while there is yet time, take every means of lessening the quantity which now exists. The only question is as to how this shall be done. It would be answered at once, that, as increased study produces myopia, the simplest way to reduce the amount would be to reduce the work. As a physician, I should of course personally approve of such a plan; but I fear it would meet with a strong opposition just where it would be the least expected, — that is, from the parents of the children. Fortunately, this opposition is the less harmful, since I believe that the amount of myopia might be lessened without reducing the gross amount of application of the eyes, though it would materially change the time of life at which it was made.

"This belief rests on a fact which is, I think, the most important to which your attention could possibly be called in this connection: that is, that near-sightedness is essentially a disease of childhood, or, at latest, of adolescent life. Thus Donders declares that he never has seen a case of myopia originate after the 20th year; and Professor Erismann states that in his experience, it rarely, if ever, began after the 15th or 16th year.

"It cannot be doubted that these statements are in the main correct, and in accordance with the experience of every observant oculist.

"The great period for the development of myopia, that is, for its *beginning*, is from the 10th to the 15th year, — just at the time when the body, as a whole, is developing most rapidly. The investing membrane of the eye, which is elastic at this period of life, yields to the pressure of the watery contents of the eyeball, which is increased by continued application; and the result is a lengthening of the eye, which, as I have so often explained to you, is near-sightedness. What is more, this distention will take place under an amount of application during the years of early youth, which, at a little later period, would not only produce no effect, but which might be increased manyfold with impunity. After the 18th, or even 16th year, when the investing membrane of the eye has become firm and unyielding, over-study may produce other and graver diseases of the eye, but it will not produce near-sightedness. From this it follows directly, that the simplest, indeed the only, method of preventing an increase in near-sightedness, if the present high standard of instruction is to be preserved in force, is to lessen the amount of work done by school-children during the period of life from 8 to 16 years, and to restore the equilibrium, if necessary, by increasing the amount of study after that time, or, better still, by increasing the period of time devoted to study. It is by complying with these conditions, whether consciously or unconsciously, that the English have become so eminently a literary people, and still, as a people, so free from myopia; while, on the other hand, it is the violation of these laws and their teachings, that is, by compelling the young of both sexes to undergo a large amount of study at a tender age, which has made Germany, without doubt, the shortest-sighted nation in the world. . . .

"I believe that the principal reason why the members of mechanical arts show less myopia than those of studious and literary occupations is not because they use their eyes less, but that the application of the eyes occurs at a different time of life, and under entirely different surroundings or conditions of existence. Until very recently, the early education of apprentices in skilled labor was, fortunately, I think, for them, neglected. They had but little school learning. They did not even approach the niceties of their calling until they were 16 or 17 years of age, and oftener not until they were grown men; and even then it was in the most gradual and careful manner. Moreover, the work was often interrupted, often beguiled by conversation, either connected with, or absolutely remote from, their labor. When the apprenticeship * was completed, and they came to close application of the eyes on near work, the dangerous period for the development of near-sightedness was over. This is precisely the reverse of what takes place with the young student, whose hardest tasks often come just at a time when he is least able to bear them.

"If, now, in the light of what has just been laid down, the question was repeated, it might be answered, I think, with assurance, that there is no danger that the 'cultivated classes' will become near-sighted, provided that, while devoting themselves to literary pursuits, they are willing to recognize and abide by the few simple laws which have just been dwelt upon. On the contrary, I think there is every reason to believe that, with a little care and caution during the short but important period of life just alluded to, the present standard or normal eye, formed and perfected in the remotest past, may be continued indefinitely.

"Two questions have presented themselves to my mind while making my investigations on near-sightedness in the public schools. One is, whether the word 'instruction' is always synonymous with 'education;' and the second is, whether, while we are reducing the number of the absolutely blind in our asylums, by improved methods of operation and treatment, we are not, by over-use of the eyes at school, laying up a future evil which, though milder in form, will, from its very frequency, entail a greater and more lasting detriment upon the race."

In connection with this part of the subject I take the liberty to introduce, from a former paper of my own, a series of

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* And now comes a Saturday Reviewer, who says that since the time of apprenticeship has been lessened, and more time devoted to schooling, the manual skill and dexterity of the British artisan is decreasing. Labor-saving machines, however, have, no doubt, something to do with this.

RULES FOR THE CARE OF THE EYES, ESPECIALLY IN CHILDREN.*

When writing, reading, drawing, sewing, &c., always take care that

(*a*.) The room is comfortably cool, and the feet warm ;

(*b*.) There is nothing tight about the neck ;

(*c*.) There is plenty of light, without dazzling the eyes ;

(*d*.) The sun does not shine directly on the object you are at work upon, or upon objects in front of you ;

(*e*.) The light does not come from in front: it is best when it comes over the left shoulder ;

(*f*.) The head is not very much bent over the work ;

(*g*.) The page is nearly perpendicular to the line of sight ; that is, that the eye is nearly opposite the middle of the page, for an object held slanting is not seen so clearly ;

(*h*.) That the page, or other object, is not less than 15 inches from the eye.

In any case, when the eyes have any defect, avoid fine needlework, drawing of fine maps, and all such work, except for very short tasks, not exceeding half an hour each, and in the morning.

Never study or write before breakfast by candle-light.

Do not lie down when reading.

If your eyes are aching from firelight, from looking at the snow, from overwork, or other causes, a pair of colored glasses may be advised, to be used for a while. Light blue or grayish blue or a light smoke-color is the best shade ; but these glasses are likely to be abused, and usually are not to be worn, except under medical advice. Almost all those persons who continue to wear colored glasses, having, perhaps, first received advice to wear them from medical men, would be better without them. Travelling venders of spectacles are not to be trusted: their wares are apt to be recommended as ignorantly and indiscriminately as in the times of the "Vicar of Wakefield."

If you have to hold the pages of "Harper's Magazine" nearer than 15 inches in order to read it easily, it is probable that you are quite near-sighted, or possess imperfect vision. If you have to hold it two or three feet away before you see easily, you are probably far-sighted, or over-sighted, hypermetropic; meaning by each of these terms a condition in which the range of perfect vision is more distant than normal from the eye. In either case, it is very desirable to consult a physician before getting a pair of glasses, for a *misfit* may permanently injure your eyes.

Never play tricks with the eyes, as squinting or rolling them.

The eyes are often troublesome when the stomach is out of order.

Avoid reading or sewing by twilight, or when debilitated by recent illness, especially fever.†

Every seamstress ought to have a cutting-out table, to place her work on such a plane with reference to the line of vision as to make it possible to exercise a close scrutiny without bending the head or the figure much forward.

Usually, except for aged persons or chronic invalids, the winter temperature in workrooms ought not to exceed 60° or 65°. To sit with impunity in a room at a lower temperature, some added clothing will be necessary. The feet of a student or seamstress should be kept comfortably warm while tasks are being done. In winter the temperature of the lower part of the room is apt to be 10° or 15° lower than that of the upper, — a condition which implies improper arrangements for heating.

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* See "Journal of Social Science," No. VIII.

† Or, in the case of women, by childbirth.

It is indispensable, in all forms of labor requiring the exercise of vision on minute objects, that the worker should rise from his task now and then, take a few deep inspirations with closed mouth, stretch the frame out into the most erect posture, throw the arms backward and forward, and, if possible, step to a window or into the open air, if only for a moment. All this presupposes good health and discretion. Two desks or tables in a room are valuable for a student, — one to stand at, the other to sit at.

A few remarks upon the lighting of rooms are here in place.* The walls may be colored a light green or a neutral gray;† the ceiling had better be white, as reflecting more and purer light. No paper is admissible: it is commonly a mere refuge of sluttishness. Blackboards ought not to be placed between or next to windows, for the simple reason that it is hard to read when facing a strong light. There will be three sides of the room, or in any case two, for blackboards, under the proper plan. The sides of the room are wainscoted up to the level of the blackboards; in the entries the wainscoting may properly be carried to 4½ feet, for reasons of cleanliness.

The windows ought to open directly upon the outer air. No room for study is properly lighted otherwise. A transom window is to be placed over each door. To protect from excess of light, inside folding-blinds with rolling slats are very satisfactory; they throw the light up or down at option, and they admit fresh air in summer without noise, while curtains are likely to get injured in a high wind.

It is perfectly feasible to get an abundance of light, if care be taken. But the requirements made by sanitary science in this respect are very strict. Fortunately they can be fulfilled without great expense. An ordinary dwelling-room cannot usually be considered adequately lighted for school purposes. For ordinary uses it is sufficient for the occupant to move his work near a window when he has a difficult bit to do; but a scholar must have a perfect light, wherever in the room he sits. The requisites to this end are as follows: —

a. The sill had better be placed four feet above the floor.

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* From a paper by the author in the Sanitarian, November, 1876.

† Paint, whitewash, or hard-finish is good.

Light entering at the level of the eyes only dazzles, and is almost useless for illuminating the tops of desks. Make the interior of the room pleasant, and the scholars will not want to look out at the window.

b. The top of the window must come as near as possible to the ceiling. By using iron girders, we can bring it within eight inches of the latter, and this should be required. The reason for this requisition is, that the most useful light for a scholar's purpose is that which strikes his desk at something near a right angle. This is furnished first by the upper part of the windows, and second by the ceiling: hence the propriety of using every means to secure the thorough illumination of the latter, a point which is neglected in most dwelling-houses, churches, and schools. Evidently the heads of the windows must be square, and not rounded or pointed, as is the case in certain picturesque styles of architecture. Neither is a pier of masonry dividing a window desirable. The roof must not project so as to cut off any appreciable light, nor are verandas at all allowable in the quarter whence light is supplied. There must be no wing or projection, no pier or column, in the way of light. These restrictions set a limit to the indulgence of the architect's taste; but they leave room enough within the limit. If projections are forbidden, flat decoration and ornamental brick-work are admitted; and shafts, wide doors, groups of windows, are features which can be seized upon to give a characteristic style to the building, which need be neither ecclesiastical, Hellenic, nor commercial.

c. The proper position of the windows is tolerably well settled. No window should be placed in front of the scholar; for the light thus entering is worse than wasted, blinding him at his work, and tending directly to produce near-sight. Windows on the right are slightly objectionable, as throwing a shadow on the page whenever the hand is used, in ciphering, drawing, writing. Windows at the back throw the pupil's own shadow on his book; but this is not a serious matter except for those who sit next a window, and they have light enough at any rate, while for writing they are extremely well placed, as it is usual to turn partly to the left in this exercise. Windows at the left are entirely free from objection, as far as they can be free. The ideal light should come from over the left shoulder, or the right shoulder, if one is sitting up and reading; but, if looking over a desk, this is rather inconvenient, and the best is then a very high light from the left and a little in front. In brief, the rule for placing windows is, *never* in front, *always* on the left, at the back also if you choose, but not at the right if you can help it. Light from the left and the back at once does not harm the eye, and practically is quite admissible; the only person to find fault is the teacher, in whose eyes the light will fall directly. These principles commend themselves to common sense, and are in accordance with the highest medical authority in this country. The German authorities agree substantially with what I have said, though they differ among each other in the degree of emphasis with which they forbid the rear and right-hand windows. English schools are peculiar; and, from the shape of the rooms and the presence of galleries, are often hard to light.

The size of the windows, taken collectively, should equal at least one-sixth of the floor-space. Cohn requires one-fifth, or 30 inches to the foot. Less than this will probably be insufficient in many cases. It is also stated by the highest authorities in school hygiene, that 300 or 350 square inches of glass are required for each pupil, and this requirement is nearly coincident with Cohn's in the German schoolrooms. In ours, with their greater depth, it would not be nearly enough.

School Desks and Seats.

Two classes of children require special favor, or special arrangement, in the assignment of seats. The near-sighted, and those partially deaf, ought to sit near the teacher; and any custom of seating pupils by rank should give way before this medical necessity. It is extremely desirable that such children should be examined by suitably qualified physicians. In the case of the eye, both the nature and extent of the disease are easily mistaken by an unprofessional observer; and the use and selection of glasses ought always to be directed by a physician. In the case of the ear, a great part of existing disease in children is curable, or at least may be improved, and is nearly certain to grow worse by neglect.

Badly proportioned desks and seats may aggravate the tendency to near-sight, by compelling the scholar to lean forward too far in writing or reading, or by bringing the page too near the face.

The natural and correct position for a book is a more or less upright one. If a book lies flat, the reader has to stoop somewhat. Most desks are sloped a little, to satisfy this requisition, and for most children this may answer; but a near-sighted child ought to have a desk at which he can sit upright, and face the book, which should be raised at a considerable angle, say about 60° from the horizontal. Such a desk has the lid in two pieces, hinged together, and the piece next the body can be tilted up to the required angle, like the music-holder of a piano. Fifteen inches is a proper distance to hold the object looked at.

As desks have been mentioned, it may be best to complete the notice of certain essential points in their construction.

The seat, if too high, raises the feet from the floor, and deprives the body of two important points of support. The feet should rest firmly on the ground or on a foot-board, the knees not elevated.

The child sitting upright on the seat, and his arms hanging freely, the edge of the desk next his body should be about one inch higher than the level of his elbows. If the desk be higher than this, it will cause a tendency to twist the body in writing; one shoulder will be raised more than the other, and lateral curvature of the spine may be the result. In parts of Germany and Switzerland, such deformities have been observed in great frequency among scholars using such desks. For girls, the desk may be $\frac{1}{2}$ or $\frac{3}{4}$ of an inch higher.

A line dropped from the edge of the desk ought not to fall clear of the seat, but should strike the edge of the latter or an inch or two within it. This arrangement brings the desk so near the body that the child naturally takes an upright position, and is not able to lean over in writing, as is the case when the seat is at some distance from the desk. This upright position should be maintained in the interest both of the eyes and of the spine.

As a general rule, American school desks and seats satisfy these requirements pretty well. They almost invariably have supports for the shoulders; which is not thought necessary by some careful students of the subject in Germany, a support rising a trifle above the level of the elbow being thought sufficient.

There is, however, one point which is greatly neglected. In a large room, containing fifty or sixty seats and desks, it is quite usual to find all of one size, so that only a portion of the scholars are suited. The most perfect grading of schools will not prevent considerable inequalities in the size of the scholars in each room; to meet which, *three* sizes of desk ought to be employed for each class in large graded schools. In schools of mixed ages, the number of sizes must be increased.

MENTAL APPLICATION.

To a child in good health, there is nothing more delightful than the properly-directed use of his mental faculties. I need not stop to argue the advantages of the kindergarten; but, assuming them, I would point out how earnest, how interested, how pleased, the children are with a process involving so much exertion of mind that they are not allowed to give more than 2½ or 3 hours a day to it. Beyond all question, the bodily and mental health of children is promoted by a process which is thus conducted and restricted. Mental labor, rightly directed, is a most healthful occupation; and there is no real reason why this should not be true at all periods of school life. The interest of little children can be kept up to any desirable pitch by methods which have been reduced to a system: if this is not true of older scholars, is it not because the key has been lost by their educators?

All plans of study which force children to assume a task before the mind is sufficiently developed to grasp it are bad; and so are all which compel the child to learn without understanding what he is old enough to understand. Some children are averse to reflection, or are gifted with such ready memories that they find it much easier to learn by rote, without making the effort to understand. But I think there are few to whom their studies cannot be made attractive by rational means of teaching; so that the effort is made spontaneously, instead of by compulsion. And the difference between spontaneous and forced action is of great consequence to the health and mental energy of the child.

It is bad to suppress the natural working of a pupil's thought in connection with his study. This suppression may be effected by neglect, by oversight, by want of sympathy, on the part of a teacher; and when a teacher is herself overworked, and forced to attend to an excessive number of pupils, who remain with her for a very short time, she may be free from blame for such neglect. It may also be effected by a routine of study which exacts visible and measurable results, — a given number of pages or of "facts" acquired, rather than comprehended, — a routine which can be and is successfully passed through by scholars only by bending all effort to the act of acquisition. A scholar may not be conscious of it, and may be trying faithfully to do his duty; but, if his mind is not properly fed by his school and his teacher, he will show signs of inanition. Food eaten with an appetite is the better digested, and mental dyspepsia is not good for the bodily health.

A more obvious source of bodily or mental injury exists in the overwork and strain which, there is reason to fear, fall upon numbers of our children. By overwork, I mean an absolute excess of exertion; by strain, working at moments of fatigue, or working under excess of emotion. I will speak of these in turn.

1. *Amount of Mental Exertion.* — It is true that individuals differ widely in their capacity for effort; nevertheless, among the very great majority of educated persons and children in school, there is a tolerable degree of uniformity.

At West Point Military Academy, every thing is in favor of the utmost efficiency. The pupils are picked young men, just past boyhood. They are excluded from dissipation and from general society; and their active bodily exercises, their regular diet and sleep, and the healthful climate of the place, leave nothing to be desired. The daily time assigned at West Point to study and recitations is about 10 hours a day during the 6 cold months.

At the Massachusetts Agricultural College, the actual work amounts to nearly 10 hours daily, besides 6¼ hours of military drill and farm-work weekly.

These figures represent the maximum average capacity of a superior class of young men, free from disabilities, at their most vigorous age.

In universities, probably a somewhat lower average might be found. As far as my own inquiries extend, the amount of study and recitation which is most profitable varies between 8 and 9 hours a day.

In high schools, during the period of rapid growth and sexual development, a lower figure must be assumed; and it seems certain that 5 hours, or under the most favorable circumstances 6, is all that should be required. The age of pupils in high schools usually ranges from 12 to 17.

Below the age of 12 years, 4 hours are probably sufficient;

below 10 years, 3 or 3½; below 7 years, 2½ or 3. In regard to children under 10 years of age, my opinion is strongly in favor of this restriction. The arrangement by which these young pupils are kept in school the same number of hours as those of the age of 17 is absurd from every point of view, except one. That one is, however, the one taken by a majority of parents, who consider that they pay to have their children *taken out of their way* for a given number of hours, and are annoyed by their presence at home. Every attempt to cut down the hours of attendance for young children will be met by prejudices based upon this belief.

It is one of the best-established laws of physiology, that work in excess of the power of the system adds nothing to the result achieved. If a child's capacity is limited to 3 hours' work, then he will in the long-run accomplish no more by being held down to 5 hours' work a day. Experience proves this abundantly. Economy in the use of public money demands that it be recognized. If a fact, it ought to occupy a foremost place in the plans for improvement which our school-boards are supposed to entertain. It is therefore proper to state some of the grounds upon which the above statement of the number of hours suitable for children's study is based.

The argument *a priori* is complete. Children are characterized by imperfectly developed brains, by a feeble power of concentration, by inability to perform continued tasks of any sort without injury. Their bodies and their minds alike require frequent change of position. It is true that in a child of 8 years the mental faculties are employed upon some object or other, and often with earnestness and concentration, for at least 12 hours of each day. But it need hardly be said that the child works very differently from the adult, and that *certain classes of work*, as the scholastic, cannot be performed by him in the same way. The solid results of mature scholarship are attained by the power of long-continued application, of which the child is destitute. A child of from 5 to 7 years is said to be able to attend to one subject, a single lesson, for about 15 minutes; from 7 to 10 years, about 20 minutes; from 10 to 12 years, about 25 minutes; from 12 to 16 or 18 years, about 30 minutes.*

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* This opinion is quoted from the work of Mr. Edwin Chadwick upon the Half-time System in Education, — a work to which the reader is respectfully referred for a large body of facts bearing on this and cognate points.

And the inference is justifiable, that a child's power of accomplishment, in mental effort, is represented by half as many hours' work daily as that of a young person of 15 years.

The argument *a posteriori*, based on experiment, is apparently in favor of the same conclusion. For instances in which the half-time system has been tried, the reader may consult the Reports of the Massachusetts Bureau of Labor for 1871, 1875, and 1878, which contain carefully prepared accounts of that system. Without repeating here the statements collected in these papers, it may suffice to say that they should carry great weight as coming from practical men both in England and America.

As understood in England, the "half-time system" is a plan for educating children of the laboring classes by sending them to school for 3 hours each day, or thereabouts, and employing them in factories, in shops, or on farms, for the rest of the working hours. It is generally found in England that children thus employed make as good progress in study as those who attend school for 6 hours a day. About 100,000 children are thus taught; in America the plan is not now in use, I believe, but former experiments in several places have given favorable results.

It is proper to observe that these arguments for shorter hours of study reach the same conclusion as that of Dr. Loring, above quoted. That the conclusion is drawn from entirely different premises, is a fact which ought to confirm its value.

2. *Strain, or Work performed at a Disadvantage.* — In our schools, all are expected to "toe the mark," or to accomplish the same stint of work. Those who for any reason, such as temporary indisposition, are unable to do this, are blamed or punished; and the unusual effort made by such scholars constitutes, in many cases, an injurious strain upon the faculties. In general, teachers are not to blame for this. They have no time to spare to help the slow ones, and are not generally permitted to make allowance for indisposition. It is not hard to see how a rigid system, or an overcrowded course of study, may act in discouraging and depressing a conscientious pupil. The teacher has no time to teach him; he must learn his lesson, or, at all events, must learn to recite; and, if unable to grasp the statements contained, he has the mortification of failure, after doing his unaided best. Uniformity enforced on a large scale, an

excessive number of pupils to a class, and an excessive number of studies, are so many elements in the production of this evil.

A system of rank and rewards based on success in reaching an arbitrary standard of acquirement is, no doubt, highly stimulating. For boys, the stimulus is desirable, as a rule ; for girls, not. The mere amount of labor exacted of children is not so important as the spirit in which it is done ; and, in the case of girls, the apprehension of failure, the dread of disgrace, the eagerness for success, are so much more acute than in boys, that they are easily injured by appeals to these emotions which would be rather beneficial to boys. To enforce this point — the danger of effort performed under stress of emotion in sensitive subjects, — I will add the remark, that emotion is a far more active cause of insanity than any kind of over-exertion of body or mind.

In the case of girls there is a special occasion for slight relaxation of discipline or requirements during the period of the monthly illness. Neglect of this fact has injured the health of many thousands, under our system of education. The growth of girls for 2 or 3 years, from the age of 11 or 12 onwards, is very rapid; in fact, they then surpass boys of their own age, both in height and weight. With this rapid growth, and, in many, rather later than earlier in the period, there comes the development of the sexual functions, — a critical event in the life of a girl. Bodily growth in this double sense, and the moral development which should go with it, form, during these years, the most important functions of her existence. It is then, however, that she is exposed to two sorts of strain most deleterious to her vitality; namely, the pressure to complete her education (which is supposed to be finished in all points at an age when boys are only prepared to enter college), and the pressure of outward life, of what is called "society." It is enough to point out these: the remedy must be left to the wisdom of those who frame systems of education, and those who are the parents of girls.

Boys at a corresponding age need to be watched over, and advised or warned concerning a bad habit which is very common. A great deal of discretion is necessary in addressing them; but I believe that a plain, direct, serious statement, coming from a master who is respected for his own character, will arouse conscience in some, and will deter others from acts which are most often begun in ignorance of their nature and consequences. It is hard to see why parents neglect this duty; but, as it is neglected, the schoolmaster cannot avoid some part of the responsibility.

The health of teachers is more liable to fail under our present system than that of scholars. It is perhaps a sadder sight to see a young child's forces of mind exhausted by overwork, but the real loss to the community is greater when a fully-developed woman of cultivation and ability drops from a condition of perfect health and energy into invalidism, temporary or permanent. In the case of a large number of teachers, the fatigue is so great that the two months of summer holidays are spent, as it were, upon a sofa, and properly so.

Several causes may be assigned for this exhaustion. In the first place, no doubt many teachers neglect the exercise which would keep them in health. It is fortunate when one lives at such a distance as to have to walk from four to six miles daily; a habit of exercise formed under these circumstances is invaluable. No doubt some eat too little through ignorance of what is needful, or take tea instead of beef, or go to bed hungry and cold, or neglect their noon meal, or hurry their breakfasts; some are weighed down with home cares; a few probably injure themselves by "dissipation in society."

But besides all this, there are several circumstances which lie entirely beyond their control, some or all of which are certainly the source of serious harm. The day's work, including the time spent in going to and from school, opening and closing the sessions, lasts from eight to five, with a sufficient intermission at noon. If thoroughly performed, such a day's work is enough for the average capacity of a healthy woman. It calls into vigorous play most of the faculties, and requires a good deal of muscular exertion in speaking. Responsibility is never absent, and annoying conflicts with obstinacy or stupidity are not infrequent. At the end of the day a teacher should be free to rest and recreate herself until the next morning. This, however, is often not the case; and many have to spend several hours of the evening in looking over written exercises, or in making up school statistics. Such an overplus of work is injurious, not simply because of its amount, but because it forces the mind to go back to the anxieties of the past day, and allows of no let-up from Monday morning to Friday night. Business-men cannot stand such a course of life, nor can teachers. Who does not recall a number of instances of break-down in each of these classes due to a similar cause?

It is worthy of notice that the hardest work of the year comes at a season when teachers and pupils are least able to bear it. In the winter many work to the utmost of their strength, sustained by the stimulating climate: in spring this stimulus fails, appetite for food is lessened, and a certain languor is felt by many perfectly sound persons. It is then that the work of the year approaches its climax, and the entire school for two months is conscious of a moral spur to increased effort. The yearly examination at the close of June requires additional exertion in preparing papers, correcting, marking, averaging, and in making ready for a public exhibition.

It is my personal belief that the number of scholars (in Boston fifty-six) assigned to each teacher is considerably larger than can be properly attended to. Nor do I doubt that by lessening the number of scholars, decidedly greater progress could be made with equal ease, and with better comprehension of the subjects taught.

My duty is fulfilled in pointing out what appear to be causes of injury. It may be that the public think the loss does not "average" very high. But it is the public's loss, whenever a good teacher is forced to retire for months, or permanently. It is an admitted fact, that most teachers marry in a few years, and escape from their toil; but it would pay for the public to see to it, that the health of those who remain, with added experience in teaching, is not imperilled by permanent service.*

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* The following letter from a teacher in a Boston public school will be of interest. It fairly represents the point of view, not of the sickly, but of the strong and able teacher.

"I think the work of most teachers extends from Monday morning at least to Saturday night. The many Saturday classes for teachers give mental work very different from that of the five school-days, but the school-care is present there.

"Bad ventilation is another chief source of illness, I think. Many colds come from the necessity of securing only partly purified air by means of a cold draught; and repeated colds, with no possible 'let-up' in the work meanwhile, are in part the cause of the spring break-down.

"Mr. Collar, of the Roxbury Latin School, told me once that he made it a rule for his teachers to lessen their own work and their pupils' when the warm weather begins. I try to do the same thing with my classes, and I know of others who do; but even where the endeavor is made, I think what you say of the culminating of school work when the system is least able to bear it is perfectly true."

BODILY EXERCISE.

In country schools, there are opportunities for play which may make gymnastics unnecessary. In fact, for boys who will play, sport is the best. In cities, however, and manufacturing places, many boys and most girls will find their privileges of open-air sport curtailed; a fact to which is largely due the deterioration of modern civic populations. For these, gymnastics may replace the simpler discipline of rough-and-tumble sports, supplying a more thorough and systematic means of developing the body into usefulness and symmetry.

Some boys, and many girls, are so disinclined to active sport, or else so unhandy in it, that they need an artificial substitute. In the case of these, all arguments against the "unnaturalness" of gymnastics fade out of sight, when confronted with the fact that the system makes healthy and enduring adults out of weak and awkward boys and girls.

One of the chief advantages of gymnastics lies in the fact that they can be adapted to the needs of individuals better than other forms of exercise. This presupposes a teacher for gymnastics, a person capable of judging when a scholar should stop exercising, and so far instructed in the anatomy of the body as to recognize defects, and to apply the proper exercises for correcting them. Where there is no such guide, the teacher can adopt some form of calisthenics, which will be good as far as it goes; enough for many, and useful to all.

The lighter exercises, taken without apparatus, and without much movement of the legs, may be practised at a moment's notice at any time in the school-session. Their aim is not to make the muscles visibly bigger, but to stimulate the circulation and respiration moderately, for a short time. They ought always to be so managed as to prove a diversion to the mind; in fact, this end is really the most important one connected with calisthenics. An easy tune may be played on the piano in concert with the rhythmic movements of the pupils, as is done in the class-gymnastics at Amherst College. Marching, and various easy military manœuvres, are capable of interesting children. The teacher should aim to make the pupils feel that what is done is important; and to this end she ought to know something of the first principles of physiology, and to feel their weight. If the children begin to look on the exercises as "silly," or the teacher considers them irksome, they are likely to be of small use.

A scholar should be expected to spend at least two hours out of every twenty-four in the open air, during most of the year. This requirement seems to me *moderate*. A teacher should spend at least an hour daily in the open air — not the air of a horse-car, or railroad.

The systems of gymnastics now in use — both heavy and light — are mostly the inventions of Germans or Swedes. There is one point in connection with the German practice, which deserves our imitation: they place the apparatus in the open air, when possible, or in a shed separate from the schoolhouse, in the middle of a yard. The advantage of exercising in the open air is too obvious to need remark; but the point is nevertheless very little attended to in our own public gymnasiums. Even school-gymnasiums (where they exist) are not always well lighted and ventilated.

An historical account of the different systems of gymnastics, with a consideration of the grounds for requiring the use of some system, may be found in a valuable lecture published by Dr. James J. Putnam, in the "Journal of the American Social Science Association" for 1875.

Note. — Under the head of "Ventilation" it has been stated that 2,000 cubic feet of fresh air per hour are required for each person. In point of fact, nearly double that amount is necessary, according to some authorities, in order to maintain a purity approximate to that of the outer air. Nevertheless it will probably be difficult to ventilate even to the extent of 2,000 feet without causing draughts in our schoolrooms; and the necessity of occasional short recesses for airing out is not likely to be superseded even by the best-intended efforts at systematic ventilation through shafts.

B.

THE RESULTS OF THE MASSACHUSETTS PUBLIC SCHOOL SYSTEM.

BY

CARROLL D. WRIGHT.

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OF THE

MASSACHUSETTS PUBLIC SCHOOL SYSTEM.

[The writer desires to acknowledge the valuable services of Mr. Horace G. Wadlin of Reading, who has prepared the statistical tables presented in this paper.]

THE opponents of free schools in various countries are making an apparently concerted attack upon the public school system of Massachusetts and of New England, as the most active enemy of their peculiarly restricted ideas of education. This attack at the present time comes from various quarters, here and in Europe, and it is stimulated and provoked because the Southern States, since the close of the civil war, have, in their wisdom, commenced the general adoption of the free public school system of our own Commonwealth, and because foreign nations are to-day, more than ever before, recognizing the great truth, that in the discipline of the intellect and the training of the moral nature, as well as in the communication of classified knowledge, is to be found the truest safeguard to national liberty, and the most potent stimulus to national virtue. In this country, education comprehends the formation of habits, "the determination of principles, and the culture of the heart," as well as the development and discipline of the intellect. With the growth of this education, the opposition of the illiberals of both hemispheres attains that intensity which belongs to a dying cause; and it has become their habit to attack the Massachusetts system, and denounce it as a failure, as the very last argument they can employ. One feels, especially in this community, as much like making an argument in favor of the truths bound up in the multiplication table as entering upon the defence of the school system of Massachusetts, even with the imperfections our own most advanced educators recognize as inherent in any system of instruction which seeks to give all a fair training in the schools. This antagonism to free public education becomes fiercer and more noisy as its cause approaches nearer and nearer its own demise. One extract from a leading foreign journal will show the spirit of this opposition: —

> "What has purely secular education done for any country where it has been tried? Let the great Republic of the West speak. . . . We shall lay before our readers to-day the opinion of more than one . . . authority on the sad effects and truly deplorable consequences of the common school systems, or of purely secular education in the United States. The Rev. Dr. ——— of Massachusetts says, 'My experience of now nearly thirty years as a pastor has, I am sorry to say, forced upon me the painful conviction that our *public school system* has undermined already among our population, to a great extent, the doctrines and principles of Christianity.' Horace Mann, who was for years secretary of the Massachusetts Board of Education, speaks of the state to which society has been brought by the common school system as something appalling. 'God grant,' he says, 'that when the leading men in our community waken to a sense of their danger it may not be too late to avert it!' Professor Agassiz, whose researches into the growth of what is mildly called the 'social evil' have been recorded, . . . says that 'a large number of unfortunate persons traced their fall to the influences which surrounded them in the *public* schools.' . . . Let some of our contemporaries who are so loud in their praise of mixed education, and so ready to deify Queen's Colleges, address their arguments for the future . . . to those benighted brethren of theirs whose opinions we have quoted above. How it is, that, such shocking proofs of the decay of morals and contempt for religion invariably following in the train of godless education, people will be still found to consign their children to such unhallowed influences, is a mystery which we must leave to themselves to solve. Evidently their mercenary anxiety to advance the worldly interests of their children must have blinded them to the wreck of virtue and morality, as well as to the sacrifice of genuine . . . convictions, which purely secular education, according to the state system of either this or any other country, invariably and almost infallibly involves."

How strange such arguments sound to people who have grown up under the idea that the church and the schoolhouse were twin agents in the civilization of the world! Yet parallel statements are made continually with the purpose of checking, if possible, the planting of a system which means universal education, and the sure growth of that congress of nations, which shall, in obedience to the dictates of cosmopolitan conscience, legislate ignorance and war and superstition, where it has legislated slavery, into the catalogue of elements which are alone destructive to the Commonwealth. The system will spread in spite of the tenacious grip ignorance still holds, and in spite of that most powerful evil spirit of government and of society which recognizes its own power only in the ignorance of the masses.

The quotations cited, are samples of the attacks which come to us from over the ocean, where the spread of the doctrine of universal education has been so rapid and satisfactory of late. The attacks on this side the water are bitter, and of a character which leads one to question the sanity of the men making them. They invariably put Massachusetts and Virginia into comparison, and endeavor to show by statistics, that crime, pauperism, insanity, and various other calamities as well as evils, are far more congenial to the civilization of Massachusetts than to that of Virginia; and this they attribute, on the one hand, to the free-school system, and, on the other, to what is termed the parental system of the South prior to the war. It is alleged, that, in order to thoroughly test the merits of the free educational system, we must go back to its fountain-head, "to the old Commonwealth where it was first planted, where it has been the most industriously cultivated, where money has been the most lavishly expended for its support, and where the largest portion of the people have been brought under its influence; to that Commonwealth to which the enthusiastic friends and admirers of this system are forever pointing with pride and exultation, as the grandest field of its achievements, — the Commonwealth of Massachusetts. . . . Early did she plant in her virgin soil this boasted system. At the same time, Virginia, then starting on her career of colonial existence, was content to leave the right and duty of educating children in the hands of their parents. . . . She adopted the parental instead of the state system of education."

The opponents to our free system say further that, "In almost every other essential particular, the colony of Massachusetts and that of Virginia started on their respective careers of existence under auspices entirely similar. Both were new colonies, the one planted in 1607, and the other in 1620. Both were pioneers of civilization in the savage wilds of America. Both were composed of English settlers, — brave, industrious, intelligent, enterprising people, . . . speaking the same language, accustomed to the same laws, manners, and usages."

The comparisons between the two States are generally limited to the period before the war, and statistics of 1860 quoted to sustain the positions taken. It will therefore be seen that the consideration of the condition and growth of the two States mentioned is not of our seeking, but is forced upon the people of this State. The statistics of other Northern and Southern States are brought into the question, and have met with attention also in this paper. While not many in our own State will believe the grounds taken in the charges made against us, they have been so widely made, and are so thoroughly the type of all the opposition to our system, that it becomes the State's duty to answer the positions taken against an institution which has been and is her just pride, and for which she expends annually nearly $5,000,000.

In entering upon this discussion, one feels much as the members of the Institute of France must have felt, when, shortly after the insurrection of June, 1848, the Cavaignac Government requested them to prepare essays for the people, to prove the most evident and the most universally acknowledged truths.* It was then, as now, an irksome and difficult task; for there is nothing more irksome, nothing more difficult, than the attempt to demonstrate what is self-evident, for intuitive truths do not admit of demonstration.

And what shall Massachusetts plead to this indictment? Shall it be Guilty? Shall it be Guilty, and present extenuating circumstances and conditions? Shall it be Guilty, with a prayer for mercy, and a petition to be put on probation? Her plea shall be Not Guilty, and it can be sustained. Let it be remembered, that no comparison of Massachusetts with Virginia has been sought by the Board of Education: it has been forced; and while, in the defence of our school system, unpleasant facts may be brought to light, it is with no unfriendly feelings toward a State whose people, with those of her geographical neighbors, are presenting to the world as grand and as noble examples of patience, under conditions the most aggravating, as history, in its wealth, can teach.

The charges, if true, should make a citizen of our State curse the birth that made him a dweller in New England.

They are not true, and our researches amply sustain the claims of the friends of the Massachusetts system. Yet the Commonwealth must be put right on these matters as often as she is attacked; for, in a statistical point of view, she usually suffers in comparison with other States. Massachusetts knows, more than any other State, the condition of her people; her full knowledge, in juxtaposition to primitive knowledge, works to her disadvantage. Statistics are the most dangerous of all means used to prove or disprove an allegation: without a knowledge of the basis on which they are founded, or with unequal bases, they are not only worthless, they are dangerous. It therefore, in the examination of the question before us, becomes necessary to consider the virtue of the statistics used to substantiate the statements made against our system, and upon which adverse criticisms are founded.

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* Du Droit de Propriété. M. Thiers. 1848.

And, first, as to crime.

I. The statistics used in comparing Massachusetts and Virginia relate to the year 1860, prior to the war, and the partial introduction in the latter State of a public school system. The reasons for comparing these States have been given. The figures used are from the United States census of the year mentioned, which gives the number of native criminals in prison, in the two States, as follows: —

Massachusetts	1,495
Virginia	163

The word "native," in the above report, means born in the United States; and we are thus led to conclude that the number of prisoners born in the United States, in all prisons in the State of Virginia, June, 1860, was 163. Yet the report of the superintendent of the penitentiary, issued at the close of the fiscal year 1859, gives the number of such prisoners in that institution alone, as 218, or about 34 per cent more than the number given in the census a few months later, for the entire State.

Indeed, so widely did the statistics of crime, given in the census of 1860, vary between communities having similar social and industrial conditions, that, in the report for 1870, the tables were republished with the following comments by the superintendent: —

"No single measure can be taken for determining the proportion of crime in the several communities of our country. . . . The absence of any effort to reduce to a consistent body the returns on this subject (in the last census) led to misrepresentations of States and sections. In some cases returns were restricted to convictions for grave offences, while in others convictions for the most petty offences were equally considered. In the opinion of the superintendent of the census, *no use of these figures, for purposes of comparison between the States, will be justifiable without reference to the foregoing*." And in regard to the United States census returns of 1870, Gen. Walker, the able superintendent, says: "Neither the statements of crime or pauperism for the year are regarded as possessing any high degree of statistical authority."

If it be thought proper, however, to use the figures of the United States census, a comparison of the reports for 1860 and 1870 will show: —

Number of native prisoners in Virginia, 1860 . . .	163
Number of native white prisoners in Virginia, 1870 . .	331

(Not including West Virginia.)

An increase of 104 per cent, while the native population decreased.

Number of native prisoners in Massachusetts, 1860 . .	1,495
Number of native white prisoners in Massachusetts, 1870 .	1,152

A *decrease* of about 23 per cent, while the native population *increased* nearly 14 per cent.

All such comparisons, aside from the inherent weakness attaching to the statistics, as described by the superintendent of the United States census, are absolutely misleading and entirely fallacious without a thorough classification of the criminal codes of the States in question. With the most reliable official data, we cannot compare criminal statistics except under like codes.

How does this rule affect the statements made? The criminal code of Massachusetts in 1860 provided for the punishment of 158 offences designated as crimes. The code of Virginia, the same year, recognized but 108 such offences as crimes punishable at law. That is, there were 50 distinct offences, known to Massachusetts law, which were not to be found in the criminal list of Virginia. Even with parallel codes, and with accurate statistics of the number of persons in prison for crime, no conclusions would be justifiable; for, of the offences common to both States, several were punishable by imprisonment in Massachusetts, but by fine only in Virginia. The following grave offences come under this list: adultery, fornication, lewd conduct, drunkenness, carrying concealed weapons, extortion.

It has not been the policy of Virginia in the past to make some of the foregoing offences penal. From official returns made to the Secretary of the Commonwealth of Massachusetts from the various prisons of the State in 1860, it appears that more than 54 per cent of the commitments were for crimes which in Virginia would have been punished by fine only, and the persons so punished never would have appeared, of course, in the number of prisoners in the State.

With these indisputable facts before us, and with the supposition that reliable data could be had as to the actual number of prisoners confined for crimes in the two States in 1860, the number for Massachusetts would have to be reduced 33 per cent to conform to the number of crimes known to the two States in common; and the balance reduced 54 per cent on account of the crimes punishable in Massachusetts by imprisonment, which receive fine only in Virginia.

These statements, incontrovertible as they are, completely destroy the value of the comparisons instituted between Massachusetts and Virginia. The following tables furnish additional evidence in the same direction, and also show that the criminal population of Massachusetts does not keep pace with the general population. The tables will be found instructive.

Table showing Number of Commitments to County Jails and Houses of Correction in Massachusetts, 1854 to 1873 inclusive.

(Compiled from prison returns, and reports of Sec'y of Board of State Charities.)

1854	16,260	1864 *	6,030
1855	17,457	1865	8,710
1856	14,355	1866	10,514
1857	13,072	1867	9,599
1858	14,599	1868	10,508
1859	13,466	1869	12,200
1860	11,764	1870	13,297
1861	11,117	1871	14,213
1862	9,705	1872	14,527
1863	9,391	1873	13,904
Average 1854–58	15,148.6	Average 1864–68	9,072.2
" 1859–63	11,088.6	" 1869–73	13,628.2

* Seven months only included.

This table shows that the number of commitments for all causes to the above institutions did not increase from 1854 to 1873, although the population considerably increased. The figures for the early years Mr. Sanborn considers excessive, but does not hesitate to use them in a table showing decrease of crime down to 1865.*

Table showing Average Number of Prisoners in County Prisons and Houses of Correction in Massachusetts, from 1859 to 1873 inclusive.

(Compiled from abstract of prison returns for each year referred to.)

1859	1,799.5	1869	1,719
1860	1,773	1870	1,711.7
1861	1,821	1871	1,800.59
1862	1,433	1872	1,800.69
1863	1,228	1873	1,887.12
1864	1,133.5		
1865	1,050.6	Increase in 1873 as compared with 1859	4+%
1866	1,410.8		
1867	1,471.5	Increase of population 1860 to 1875, about	34%
1868	1,553.8		

Table showing Number of Persons committed to County Jails and Houses of Correction in Massachusetts from 1860 to 1873 inclusive; with Number who were Natives of the State, and Number who had received a common school Education.

YEAR.	Whole Number Committed.	Natives of Massachusetts.	Number who had received a common school education.	AVERAGES.
1860	11,764	2,717	–	Av. No. per year: 10,084.4 +
1861	11,117	2,682	–	
1862	9,705	2,172	–	
1863	9,391	2,148	–	Av. No. of Natives: 2,794 +
1864 †	5,728	1,535	3,194	
1865	7,872	2,145	4,320	
1866	9,481	2,673	5,645	Av. No. who had received a common school education 6,114.4.
1867	8,553	2,711	5,325	
1868	9,202	2,798	5,868	
1869	10,566	3,181	6,756	
1870	11,342	3,407	7,183	
1871	12,080	3,520	7,604	
1872	12,457	3,731	7,750	
1873	11,924	3,698	7,499	

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* First report Secretary of Board of State Charities: Pub. Doc. 1864.

† Seven months of 1864 only.

The above table is compiled from the abstract of prison returns. The figures given prior to 1864 are based upon the entire number of commitments for those years, and are therefore somewhat in excess of the true number of *persons* committed. The remaining figures give the actual returns of *persons* committed. The manner of presenting abstracts was changed in 1874, and no figures can be obtained after 1873 to parallel with those here given.

The table shows that out of an average number of 10,084+ persons committed for all causes, per year, during 14 years, 2,794+, or about 27 per cent only, were born in the State; while 6,114+, or about 60 per cent, had received a common school education.

Table showing Number of Persons sentenced to State Prison in Massachusetts from 1864 to 1873 inclusive; with Number who were Natives of the State, and Number who had received a common school Education.

(Compiled from "Abstract of Prison Returns.")

YEAR.	Whole No.	Natives of Mass.	No. who had received a C. S. education.	AVERAGES.
*1864	79	29	No data.	Average number per year: 160.9.
1865	129	42	58	
1866	247	94	140	Average number of natives of State: 69.9.
1867	128	52	64	
1868	180	88	104	Average number with common school education: 66.1.
1869	182	80	109	
1870	181	93	107	
1871	149	70	4	No figures to parallel with these after 1873.
1872	160	73	5	
1873	174	78	4	

Summary: Of an average number of 160+ persons sentenced per year during ten years following 1864, 69+ persons, or 43+ per cent, were born in the State; while 66+ persons, or 41+ per cent, had received a common school education.

* Seven months only of 1864.

Table showing Total Number of Convicts in State Prison each year from 1860 to 1874 inclusive, with Number who were Natives of Massachusetts.

YEAR.	Whole No.	No. of natives of Mass.	AVERAGES.
1860	502	163	Average number 519+.
1861	547	205	
1862	460	169	Average number natives of State, 207+, or 39+ %
1863	408	140	——
1864	351	141	That is: 39+ % of the inmates of State prisons, during the 15 years, were natives of Massachusetts, over whom the public schools are supposed to have had an influence.
1865	379	139	
1866	518	183	
1867	534	202	
1868	558	225	
1869	593	241	No data exist for determining parentage of those born in the State.
1870	563	253	
1871	543	243	
1872	562	244	
1873	586	256	
1874	683	303	

Table showing Number of Convicts in State Prisons of Massachusetts, Connecticut and Virginia, 1860, with Number born in each State, with Ratio to Native Population.

	Whole No.	No. born in State.
Massachusetts . . .	502	163 or 32 + %
Connecticut	179	96 or 53 + %
Virginia *	249	153 or 61 + %

Table showing Number of Convicts in State Prisons of Massachusetts, Connecticut and Virginia, 1871, with Number born in each State, with Ratio to Native Population.

	Whole No.	No. born in State.
Massachusetts. . . .	543	243 or 45 %
Connecticut	211	74 or 35 %
Virginia †	160	94 or 58 %

The above tables are compiled from the official reports of each institution referred to.

Summary: In 1860, a smaller per cent of convicts native to the State in Massachusetts State Prison than in either Connecticut or Virginia. The ratio of convicts born in the State to the native population was less than in Connecticut, and slightly greater than in Virginia.

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* At end of fiscal year 1859, whites alone considered.

† Whites alone considered.

In 1871, a smaller per cent of convicts native to the State in Connecticut than in Massachusetts or Virginia; the percentage in Virginia considerably greater than in Massachusetts.

Native Prisoners compared with Native Population.

(From United States Census.)

	1850.*	1870.	
Massachusetts .	1 in 1,267 +	1 in 855 +	Increase about 48 per cent.
Vermont . .	1 “ 4,375 +	1 “ 1,954 +	“ “ 124 “
Rhode Island .	1 “ 2,130 +	1 “ 1,295 +	“ “ 64 “
Connecticut . .	1 “ 1,358 +	1 “ 1,524	Decrease 10 per cent.
Virginia . .	1 “ 4,804 +	1 “ †1,162 +	Increase 313 per cent.
North Carolina .	1 “ 20,145 +	1 “ 2,312 +	“ 771 “
South Carolina .	1 “ 31,416 +	1 “ 976 +	“ 3,119 “
Georgia . .	1 “ 24,975 +	1 “ 1,622 +	“ 1,440 “
Kentucky . .	1 “ 23,162 +	1 “ 1,299 +	“ 1,606 “
Maryland . .	1 “ 1,635 +	1 “ 721 +	“ 127 “
Delaware . .	1 “ 6,162 +	1 “ 2,032 +	“ 206 “

Whole Number in Prison compared with whole Population.

(From United States Census.)

	1850.*	1870.	
Massachusetts .	1 in 804 +	1 in 567 +	Increase 42 per cent.
Vermont . .	1 “ 2,991 +	1 “ 1,712 +	“ 75 “
Rhode Island .	1 “ 1,432 +	1 “ 1,207 +	“ 19 “
Connecticut . .	1 “ 1,196 +	1 “ 1,249 +	Decrease about 4 per cent.
Virginia . .	1 “ 4,542 +	1 “ †1,164 +	Increase 291 per cent.
North Carolina .	1 “ 19,750 +	1 “ 2,289 +	“ 760 “
South Carolina .	1 “ 18,569 +	1 “ 963 +	“ 1,828 “
Georgia . .	1 “ 21,074 +	1 “ 1,606 +	“ 1,213 “
Kentucky . .	1 “ 18,892 +	1 “ 1,238 +	“ 1,426 “
Maryland . .	1 “ 1,468 +	1 “ 754 +	“ 95 “
Delaware . .	1 “ 6,538	1 “ 1,894 +	“ 245 “

The foregoing tables of themselves furnish sufficient evidence to disprove the statements in the first proposition; but when read with the knowledge that there are 33 per cent more offences called crimes in Massachusetts than in Virginia, and that 54 per cent of all crimes committed in Massachusetts that are punishable by imprisonment are only punished by fine in Virginia, the tables are conclusive, and the charge made, that crime follows the public school system, falls. It is still unjust to Massachusetts, even on the supposed equality of crime and criminal conditions, to compare Massachusetts with Virginia, under this charge; for all the conditions of the population of the two States are greatly at variance. The former is a manufacturing community: the latter, an agricultural. In 1860, Massachusetts had employed in her manufacturing establishments 217,100 persons, 148,800 males and 68,300 females, and her products were worth $266,000,000. Virginia employed 36,590 persons, 33,050 males and 3,540 females, in her manufacturing establishments, and produced $51,300,000 worth of goods. In agriculture, Massachusetts had 2,155,512 acres of improved land, and raised one-third the value of the agricultural products of Virginia with 11,435, 954 acres of improved land.

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* No data prior to 1850.

† West Virginia included.

Can we compare the conditions as to crime or insanity of peoples whose occupations differ so much? In Massachusetts the population has been augmented constantly by immigration from abroad: that of Virginia, only by natural accretions. The white population of the latter State has grown from the original stock: that of the former, from the original stock and foreign grafts. Virginia, too, has held to a great extent her native population, while the children of Massachusetts have continually sought the setting sun.

In 1790 the population of Massachusetts was 378,787; in 1870 it was 1,457,351, nearly four times what it was in 1790.

Virginia * in 1790 had a total population of 691,627: whites, 391,524; colored, free and bond, 300,103. In 1870 her total population was 1,224,930: white, 712,089; colored, 512,841,—not quite double that of 1790.

The population to the square mile in Massachusetts in 1870 was 186.84; in Virginia, 31.95.

Massachusetts doubled her population between 1840 and 1870, or in thirty years; Virginia nearly doubled hers between 1790 and 1870, or in eighty years.

The immigration of the two States has been more unequal than the growth of population. Between 1820 and 1876, there had been received into Massachusetts 714,667 immigrants; while in Virginia the number had been insignificant, amounting to only 11,281, for the same period.

The following table presents the condition of Massachusetts and Virginia, for 1850, 1860, and 1870, relative to native and foreign population:—

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* West Virginia not included in these statements.

Table showing Native and Foreign Population of Massachusetts and Virginia, 1850, 1860, 1870.

	1850.				1860.		
	Total Population.	Native.	Foreign Born.	Unknown.	Total Population.	Native.	Foreign Born.
Massachusetts	994,514	827,430	164,024	3,060	1,231,066	970,960	260,106
Virginia	1,421,661	1,398,205†	22,985	471	1,596,318*	1,561,260*†	35,058*

1870.

	Total Population.	Native.	Foreign Born.	Having One or Both Parents Foreign.	Having Foreign Father.	Having Foreign Mother.	Having Foreign Father and Mother.
Massachusetts	1,457,351	1,104,032	353,319	626,211	609,836	606,727	590,352
Virginia*.	1,667,177	1,636,332	30,845	76,908	73,594	63,828	60,424

* Including West Virginia.

† Slaves included.

The tendency of the South to retain all the distinctive features of her older civilization, especially in respect to the character of her population, has been well shown by one of her noblest sons, Mr. W. L. Trenholm of South Carolina, in an exceedingly valuable and interesting paper read before the American Social Science Association at Saratoga, September, 1877. Mr. Trenholm, in speaking of the isolation of the South prior to 1860, says: "Invention, science, and the arts had literally put a new face upon the earth; the division of labor had augmented the producing capacity of the masses, and multiplied their employments and needs, stimulating trade and diffusing intelligence. The gold of California and Australia, together with the improvements in navigation and inland transportation, produced universal activity in commerce and trade. The whirl and rush of this progress encompassed the South on every side: . . . yet alone in all the world she stood unmoved by it; in government, in society, in employments, in labor, the States of the South in 1860 were substantially what they had been in 1810. . . . Not only had the South remained unchanged during all this time, but the flood of immigration which poured over all the rest of the country had passed her by. Millions of men and women from every country of Europe passed along the whole extent of her northern border, bringing with them the industrial secrets of every quarter of the globe, and carrying their skill and thrift to the uttermost wilds of the West; they passed within sight, almost, of the fertile soil, untenanted lands, and untouched resources of the South, . . . but they would not come in. The conservatism and isolation of the South are the more remarkable, because the country was so full of enriching progress. . . . A conservatism so exceptional and conspicuous became an offence to the spirit of progress animating the rest of the world. . . . No ordinary influences, certainly no mere nominal state of mind, could have withstood the onset of modern progress, the solicitations of self-interest, the promptings of cupidity, the siege and bombardment of outside public opinion, to which the South was so long and so constantly subjected; nor, on the other hand, could any sentiment or squeamishness have kept out of so attractive a country, the immigrant who cheerfully encounters cold, hunger, thirst, and savages in making his home in the lonely prairie. We must, of course, look for the prime cause of Southern peculiarities in its peculiar institution, African slavery. . . . If slavery here had not been contemporaneous with the extraordinary facilities for transmigration which the present century has introduced, the original slave States would probably have contained to-day the eleven millions which constitute the Southern population, and European immigration would long since have filled up all the rest of her present territory." And then there would have been some sense in comparing the moral conditions of society South, with those North; but, with her retained native population as against the imported population of the North, no justifiable comparisons can be made. Nor has the author of the arraignment we are considering, any right to exclude the blacks from the Southern population, or the foreign elements from the Northern; for, had the Southern States adopted a free school system at the same time with the North, does any one believe the institution of slavery could have existed so long? Of course the slave was not the creation of the Southern parental system of education; but without that system he could not have been sustained; and that system is responsible as much for slavery as the free school system of the North is responsible for the wonderful tide of immigration, which, Mr. Trenholm so eloquently asserts, has brought the industrial secrets of every quarter of the globe to America. Ignorance, the parental system of education, and slavery, form a trinity the North has never known; and every noble man you meet South is thankful it will never be known again in his community. A visit to the Southern States, intercourse with their best minds, with men like Mr. Trenholm, whose progressive ideas we have referred to, like Gov. Holliday of Virginia, Gov. Porter of Tennessee, and all men there who desire the development of their rich States, will prove to any one the great fact of their desires to see the effects of that trinity washed out forever, and, they do not hesitate to hope, by that potent agent, the education and consequent elevation of their peasantry and operatives; and this is shown too in their deep interest in all that Massachusetts has done and is doing for the uplifting of her people, under the benign influence of that other trinity, — the sanctuary, free schools, and general knowledge.

It should be remembered that within thirty-three years our factory operative population has been composed of three distinct nationalities. A generation ago our cotton and woollen mills were filled with operatives from the farming villages of New England and the homes of Old England. The traditionary factory girl gave place, and rapidly too, to the Irish operative, till hardly a native woman could be found in our mills. The Irish girl held undisputed sway for a few years, till now the French Canadian is crowding her away from the looms, and so quietly and yet so swiftly that in many localities the Irish brogue has almost died away in the chatter of the new-comer. With each change the tendency to illiteracy has become more and more marked. Yet the State preserves her superiority over most of her sisters in the small proportion of her people who can neither read nor write.

The illiteracy of the Northern and Southern States referred to, and compared in the attacks cited, is shown by the following tables: —

Comparison of Illiteracy of Natives, 1850–1870.

(From United States Census.)

	1850.		1870.
	Natives 20 years of age and over who cannot read and write, with percentage of native population.		Natives 10 years old and over who cannot *write*, with percentage of native population.
Massachusetts,	1,861, or $\frac{2}{10}$ of 1 + %	Massachusetts,	7,912, or $\frac{7}{10}$ of 1 + %
Vermont, .	616, or $\frac{2}{10}$ of 1 + %	Vermont, .	3,902, or 1 + %
Connecticut, .	1,293, or $\frac{3}{10}$ of 1 + %	Connecticut, .	5,678, or 1 + %
Rhode Island,	1,248, or 1 + %	Rhode Island,	4,444, or 2 + %
So. Carolina, .	16,460, or 2 + %	Delaware, .	20,631, or 17 + %
Georgia, .	41,261, or 4.5 %	Maryland, .	126,907, or 18 + %
Virginia, .	87,383, or 6 + %	Kentucky, .	324,945, or 25 + %
Kentucky, .	67,359, or 7 + %	Virginia, .	523,012, or 31 + %
Maryland, .	38,426, or 7 + %	No. Carolina,	397,573, or 36 + %
No. Carolina,	80,083, or 9 + %	Georgia, .	467,503, or 39 + %
Delaware, .	9,777, or 11 + %	So. Carolina,	289,726, or 41 + %

Comparison of Illiteracy, 1850–1870.

(From United States Census.)

	1850.		1870.
	White persons 20 yrs. old and over, unable to read and write, with percentage of white population.		White persons 21 yrs. old and over who cannot *write*, with percentage of white population.
Connecticut, .	4,739, or 1 + %	Connecticut, .	22,673, or 4 + %
Vermont, .	6,189, or 1.97 + %	Vermont, .	13,312, or 4 + %
Rhode Island,	3,340, or 2 + %	Maryland, .	32,766, or 5 + %
Massachusetts,	27,539, or 2.7 + %	Massachusetts,	83,810, or 5.8 %
Maryland, .	20,815, or 4 + %	Rhode Island,	16,074, or 7 + %
So. Carolina, .	15,684, or 5 + %	Delaware, .	8,032, or 7 + %
Delaware, .	4,536, or 6 + %	Virginia, .	107,723, or 9 + %
Georgia, .	41,200, or 7 + %	Kentucky, .	106,551, or 9.6 + %
Kentucky, .	66,687, or 8 + %	Georgia, .	62,430, or 9.75 + %
Virginia, .	77,005, or 8.5 + %	So. Carolina,	30,391, or 10 + %
No. Carolina,	73,566, or 13 + %	No. Carolina,	95,839, or 14 + %

The illiteracy of Massachusetts in 1875, by the last State census, was 104,513, above ten years of age, or about 6$\frac{1}{3}$ per cent of the whole population. The native born illiterates over twenty-one years of age numbered 6,947, or about two-fifths of one per cent of the population. In 1850 the percentage was about three-fifths of one per cent, showing a decrease of one-fifth of one per cent in native illiterates over twenty-one years of age; while the population increased during the same period, 1850 to 1875, over sixty-six per cent. Illiteracy was not reported in 1860. I am therefore debarred making comparisons for that year.

In Massachusetts, crime is more completely ferreted out, prosecuted, and punished, than in any other State in the Union. The punishment of high-toned criminals is as swift as that of men who cannot boast of social station.

I remember, a few years ago, when an educated criminal holding a high social position was brought in for sentence in a court in Boston, his counsel eloquently pictured the misery a sentence would work in the family and circle of the prisoner, and urged the court to make the sentence as light as possible on account of his culture and fine attainments. The court in passing sentence stated that the reasons given by prisoner's counsel for a light sentence were just those which would induce him to give all the punishment the law would allow; that the education and position of the accused should have prevented him from committing the crime, which on this account was a much greater crime: he only regretted that the law did not provide for a severer sentence. I think the records of the past few years in this State prove clearly that our courts are thoroughly imbued with this doctrine. If other States will follow the blind goddess as scrupulously as does Massachusetts, their criminal list may with reason be compared with her own.

I have dwelt upon the first proposition quite at length, because it was so general in its nature, that many things said under it would apply to some of the others. It appears conclusively to my own mind, that the facts stated and the arguments drawn from them completely answer the first count of the arraignment.

II. That pauperism, idiocy, suicides, and insanity, are superinduced by the Massachusetts school system, and that this is proven by two hundred years' trial, is a proposition which in many respects strikes one as too puerile to demand serious consideration: yet it is often alleged as true. To refute the statement it only requires to be shown that the evils enumerated do not keep pace with population. The basis of comparison used in the indictment is not sufficiently trustworthy to allow its being employed in this connection. As to pauperism and insanity, they are conditions which follow manufacturing enterprises more sharply than peoples engaged in agriculture: yet in Massachusetts they do not keep pace with the growth of population.

The most reliable lunacy statistics for Massachusetts show an increase in the number of insane from 1855 to 1875 of 38 per cent, while the population increased during the same period 45+ per cent.

As to pauperism for the last named period, in Massachusetts there was a decrease in the number of full-support paupers of about 20 per cent, against an increase of population of 45+ per cent.* The number of State paupers decreased 10 per cent.†

Idiocy increased in Massachusetts during the same 20 years 23 per cent, or about one-half the ratio of increase of population.

In the examination of the Registration Reports of this State, it is found that the average number of homicides for the period used — 1855 to 1875 — was 21.3 per annum; the average yearly number of suicides for the same period was 92.5: an exhibit Massachusetts need not worry over, or use as the basis for agitating the abolition of her school system. These figures have no weight when the conditions of the people of this State, as to their occupations, &c., are taken into consideration, as more fully discussed under the preceding proposition. We regret that data for all the States cannot be had to correspond with those for Massachusetts.

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* State Censuses, 1855, 1875.

† Twelfth Report Board of State Charities, Appendix, p. 35.

III. That the crime of abortion is one of the direct results or outgrowths of the system.

This is a bold assertion, and the only merit it has is that it is assertion; for it cannot be proven, and there are no statistics by which to disprove it. It would be strange, under the general advance all science has made during the present century, if, with that advance, evil had not in many ways found new and powerful auxiliaries. The implements of war have kept pace with those of peace. Men are killed scientifically; the chemist's arts are used for all purposes, and the discoveries of therapeutics disclose the means for wrong as well as for curative and remedial purposes. If science has been in any way benefited by the free system of schools in any or all countries where it prevails, it must be acknowledged that abortion may have become more frequent. It would take a man utterly devoid of logic to attempt to convince the world, that, because anæsthetics had been used by burglars to aid in robbery, they should be condemned as the evil results of scientific discovery; but so it is that one of the noblest gifts to humanity is turned to the service of the Devil. The means of procuring abortion with ease and with little chance for the discovery of the crime have been resorted to by evil-disposed people; still we fail to see why the practice should be charged upon the Massachusetts school system. The testimony of medical men is, that criminal abortion is on the decrease, and the decrease may well be charged to advanced moral education.

IV. The charge also made that Boston's dens of iniquity owe their overcrowded condition not so much to the foreign parentage of their inmates as to the public school system, is a charge upon the virtue of our foreign born women. I assert, without fear of successful contradiction, that the ratio of criminals referred to, to the whole population in Boston, or Massachusetts, is not as high as that of any large city in this country not having a public school system similar to our own. To discuss the fourth count, one is tempted to say that prior to the war, and under the parental system of education existing at the South, there was a reason why certain crimes did not appear to exist to so great an extent as in the North. For the same reason, adultery was punishable by the insignificant fine of $20, while in Massachusetts it met with imprisonment.

This reason, as to the South, is of the past, and should not be forced into any discussion; nor should this State be challenged to their consideration.

V. Another charge, but too long to be repeated, relates to the destruction of home influence, the scattering broadcast the seeds of anarchy, discord, communism, &c.

If there is a place on earth where the sacred ties of home find their fullest strength, it is in New England; and under her system of schools it offers the freest play of home influence upon the child. Under the old parental school-system of the South, the boarding-school and the academy took from their homes those pupils destined to receive any education beyond the rudimentary instruction available. The peculiar advantages of home influences for the child, while he is a student, to be secured under the Massachusetts school system, were well stated by Rev. William Barrows, D.D., in "The New Englander" for November, 1858, contemporaneously with the period, back to whose system the opponents of our free schools would have the South turn, and with her system of that time in mind: —

> "Early departure from the homestead is a moral crisis that many of our youth do not show themselves able to meet. It comes at a tender age, when judgment is weakest, and passion and impulse strongest. The heart is inexperienced, and peculiarly plastic for impressions. The great outlines of character, the prophecies of the coming man, are being drawn out. If a malformation take place at this period, it is organic. It should be remembered, that, if a home is ever of worth to a child, this is the period when he most needs it. The morning and evening air of the homestead may not be as classic as that of academic halls, but more pure, giving tone and vigor to the forming and unfolding manhood. Many are so confiding, generous, and nobly impulsive, that their character will certainly be shaped by their companions. The success or failure of others is cast on the contingency of spending their sabbaths at home or abroad. That hallowed day, spent in the sacred privacies of a childhood home, is an antidote to a thou-

sand ruinous influences. All the glittering promises of catalogues and boarding-school circulars, to watch the manners and morals of the pupil, may prove of less worth than the affectionate sympathy of a sister, the gentle words of a mother, and the approving look of a father.

"In brief, under this system, all the power of home can be brought to bear on the child, while he is feeling all the forces and using all the advantages of a good school. The parents can carry forward their system of instruction jointly with the public teacher. So the unnatural, and dangerous, and often fatal divorce of the child from his home is avoided."

This strong presentation by Dr. Barrows is a sufficient answer to the challenge.

New England lives under a second trinity, other than that of the sanctuary, free schools, and general knowledge; but which grows out of the first, and can only live where that is found, — the trinity of the father, the mother, and of the child. The father, the mother, and the child which perpetuates their being, unceasingly reproduce the trinity, which of itself completes and continues the race.*

The child is the epitome of the human flock, and is more thoroughly the object of the deepest solicitude of the municipality and the state under the free common school system than under any other, — especially that system which would send the child away from the holy amenities of home-life to acquire even that elementary education, so readily gained in our grammar-schools.

The sabbath finds its highest consecration with a people universally educated. I need not wound the sentiments of those courageous men, who have succeeded in instituting a system of public education far in advance of the old, by calling up the picture of the holiday Sunday of their cities, nor take the space to cite those countries where one passes on the sabbath from the grand cathedral, where he has witnessed the superb service of the celebration of mass, to the theatre or to the public square, where he can be entertained or offended according to his birthplace or his tastes. In New England the chimes of the church-bell and of the school-bell ring out in harmony; and under their mellowing and elevating influences we have no general sabbath-breaking, no communism, no election riots, no matter how hot the campaign may have been, no riots from great strikes upon railroads, such as was inaugurated at Martinsburg a few months ago. We do have free discussion of all such matters as interest the people, and the people are able to join in the discussion.

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* Lamartine.

This count of the indictment cannot be sustained, and it was recklessly made.

VI. The last charge relates to divorces, and charges upon the Massachusetts system all the evils growing out of unhappy marriages, and the infidelity of married people. That young ladies growing up under our system, and all modern conditions, learn to consider that there is something else for them to become, than mere agents for the rapid population of the earth, is true. The sacred name of mother holds as warm a place within their natures as it ever held in the hearts of any women of any time or of any land. They prefer, however, to be the mothers of families they can rear with a conscientious and religious discharge of matronly duties, rather than to bring into the world those old-fashioned large families, so much sighed for by a few pessimists who fail to observe that the family of to-day *is brought up*, instead of furnishing the innocent cause for repeated breaks in the family circle. Those old-fashioned families, what general misery they brought with them to those fathers and mothers who thought it their duty not to allow over two years to intervene between the ages of children, during a period of twenty years or more! If the public school system has brought our generation to the truth that a small family, well cared for, is more an honor and glory to the Creator than a large old-fashioned one half cared for and neglected, then God be praised! for in the new conditions we shall not find so many men and women carrying through life the constantly reminding back-ache of the great work of their mothers, who, in their endeavor to obey the injunction to increase and multiply, made also those wonderful exertions necessary for the preservation and care of the home, which, although they excite our admiration for their Spartan characters, we do not care to see extended to this or any other age. Under either period or family *régime*, the product has been of the same race as the parents — thanks to our school system.

The causes of divorce in Massachusetts and Virginia in 1860 were very much the same; and if the divorces of the latter State not decreed by the courts could have been transferred to the court calendar, where they would now be found, the record would not be quoted by any sane man to prove that our system of schools caused more separations of husband and wife than did the parental system of Virginia and other States.

Many of the elements of the fifth and sixth counts are met by the statements and facts to be found in the consideration of the first, and they need not be treated at greater length.

The system of Massachusetts has its faults, or rather its imperfections; but they are the imperfections incident to its growth, and not inherent in the system itself. A youth, as to strength, is not the perfect man; but the process of development brings him to the perfect stature. No intermediate stage can be designated an imperfection. So with our system; it is in the process of development continually. One can easily say that it does not provide for all the wants or all the necessities of a public education, and I certainly feel that it might do more towards fitting young men and women for the active work of life, but I am content when I see that it is working in that very direction; that, if its art schools can be established in large cities, it will result in practical benefits to the Commonwealth in an industrial point of view, and will lead eventually to industrial education, the great need of the future, for in the greater versatility of talent is to be found the emancipation of labor. When the operative is also the artisan, and the artisan the artist, to the extent of producing fine work and even art-work, he is in a condition to help supply the ever-increasing wants of life, when what we call luxuries one day become necessities another. This kind of training, along with the best moral and religious culture growing out of broadened intellectual development, will ripen into that solid education without which no State in the future can long maintain its strength. This education, with Christianity, not for a corner-stone of the State, but the whole underpinning, the Massachusetts system aims to secure, not only to the children of respectability, but to all without regard to condition or to rank in society. It is only under the Christian commonwealth, North or South, that these things can be realized.

C.

SUGGESTIONS ACCOMPANYING THE COURSE OF STUDY FOR GRAMMAR AND PRIMARY SCHOOLS,

BOSTON.

OUTLINE COURSE OF STUDY.—PRIMARY SCHOOLS.

See Suggestions for the different Studies.

CLASS.	LANGUAGE.	ORAL INSTRUCTION.	READING AND SPELLING.	WRITING.	ARITHMETIC.	DRAWING.	MUSIC.	PHYSICAL EXERCISES.	RECREATION.	MISCELLANEOUS.
VI.	$1\frac{1}{2}$ *hours a week.* Oral lessons. Purpose,—to accustom pupils to express what they know in sentences. Material,—reading lessons, pictures, plants, and animals, or whatever the ingenuity of the teacher may suggest.	$2\frac{1}{2}$ *hours a week.* Simple, conversational studies of familiar plants, animals, and things; to distinguish *form, color, and prominent qualities.* Simple poetry recited (throughout the course).	10 *hours a week.* Reading from black-board, chart, and a Reader of a proper grade.	$1\frac{2}{3}$ *hours a week.* A few of the simplest script letters; viz.,—*i, u, n, m, t, d, e, o,* &c. Short, easy words, names of familiar objects, combining the letters learned. Arabic figures.	2 *hours a week.* Numbers from 1 to 10. 1. Adding and subtracting. 2. Arabic figures. 3. Ordinal numbers.	2 *hours a week.* As in Rules and Regulations, Chap. XXVIII. Names, positions, and relationship of straight lines. Combinations of lines to make figures. Their division into equal parts. Drawing from memory and dictation of lines in defined positions. Combinations and arrangements of points and short lines in geometric forms. Ruling lines of given length. Measuring length of given lines. Black-board. Slates.	1 *hour a week.* As in Rules and Regulations, Chap. XXIX. First 14 pages of First National Music Reader by rote. Scales by numerals and syllables. Position of body and formation of sounds.	50 *minutes a week.* Not less than twice each session, some simple, pleasing exercise in concert.	½ *hour a week.*	
V.	$1\frac{1}{2}$ *hours a week.* Same as in Class VI.	$2\frac{1}{2}$ *hours a week.* Same as in Class VI., with new material. Simple talks about the human body and hygiene. In connection with number lessons,—coins from 1 to 10 cents.	10 *hours a week.* Reading from a Reader of a proper grade. Spelling, by sound and by letter, some easy, common words from the reading lessons.	$1\frac{2}{3}$ *hours a week.* All the small script letters,—combined into words as in Class VI. Arabic figures.	2 *hours a week.* Numbers from 1 to 10. 1. Multiplying and dividing, with results in figures. 2. Relations of numbers from 1 to 10. (See subjects for "Oral Instruction.")	2 *hours a week.* Curved lines explained. The simple curve. Combination of curved with straight lines. Illustrate plane geometric definitions of lines and figures, by rule and measure. Simple forms from memory and dictation. Rearrangements of exercises in design. Black-board. Slates.	1 *hour a week.* Notation. Time, beating time, and signs of expression. Practice in writing characters used in music. Rote songs at option of teacher. Chart No. 2.	50 *minutes a week.* Same as in Class VI.	½ *hour a week.*	

OUTLINE COURSE OF STUDY. — PRIMARY SCHOOLS — *Continued.*

CLASS.	LANGUAGE.	ORAL INSTRUCTION.	READING AND SPELLING.	WRITING.	ARITHMETIC.	DRAWING.	MUSIC.	PHYSICAL EXERCISES.	RECREATION.	MISCELLANEOUS.
IV.	2 *hours a week.* Same as in preceding classes.	$2\frac{2}{3}$ *hours a week.* Same as before, introducing freely comparisons between like and unlike; and studying less familiar plants, animals, and things. With number lessons, — pint, quart, gallon; quart, peck, bushel.	8 *hours a week.* Reading from a Reader of a proper grade. Supplementary reading. Spelling, by sound and by letter, words from the reading lessons, and other familiar words.	2 *hours a week.* Capitals and small letters; short, easy words; names of pleasing, familiar objects; pupil's name.	$2\frac{1}{2}$ *hours a week.* Numbers from 1 to 20. 1. Combinations of 10 with numbers smaller than 10. 2. Adding, subtracting, multiplying, and dividing, with results in figures. 3. Relations of numbers from 1 to 20. 4. Roman numerals to XX. 5. Meter and decimeter.	2 *hours a week.* Curved lines explained. The compound curve. Outlines of vases and pitchers, illustrating compound curves. Arranging simple leaves to fill geometric forms by repetition. Symmetry, or balance of parts, explained. Definitions of regular plane forms in words and by illustrations. Dictation and memory. Black-board. Slates.	1 *hour a week.* Review, and advance to end of Chart No. 12. Rote songs, pp. 15, 16, and 17. Writing of notes of different values, and combining them into measures.	50 *minutes a week.* Same as in Classes V. and VI.	½ *hour a week.*	½ *hour a week.*
III.	2 *hours a week.* Oral exercises as in preceding lessons. Pupils to write the sentences made in their oral exercises so far as they are able.	$2\frac{2}{3}$ *hours a week.* Same as before. Grouping of animals by habits, traits, and structure; and of objects by form and qualities. Lessons in size and distance by simple measurements, — inch, foot, yard.	8 *hours a week.* Reading from a Reader of a proper grade. Supplementary reading. Spelling as before, written and oral.	2 *hours a week.* Letters, words, and short simple sentences; the proper use of capitals. Roman numerals.	$2\frac{1}{2}$ *hours a week.* Numbers from 1 to 100. 1. Combinations of tens, and of tens with smaller numbers. 2. Adding, subtracting, multiplying, and dividing numbers from 1 to 50, with results in figures. 3. Relations of numbers from 1 to 50. 4. Roman numerals to L. 5. Square and cubic decimeter.	2 *hours a week.* Review work of previous classes. Proportion and size. Testing accuracy by scale. Designing new combinations of old forms. Symmetry and repetition further illustrated. Enlarging from cards. Reducing from black-board. Black-board and slates.	1 *hour a week.* Review, and advance to end of Chart No. 15. Exercise upon sounds of the scale by numerals, syllables, and pitch names. Rote songs. Writing scale degrees under dictation.	50 *minutes a week.* Same as in preceding classes.	½ *hour a week.*	½ *hour a week.*

II.	*2 hours a week.* Same as in Class III.	*2⅔ hours a week.* Observation of less obvious qualities;—tints and shades of color. Study of strange animals from pictures, to infer mode of life from structure, or structure from mode of life. Simple lessons on weights and divisions of time. Talks about the human body and hygiene, continued. Fables, anecdotes.	*7 hours a week.* Reading from a Reader of a proper grade. Supplementary reading. Spelling as before.	*2 hours a week.* Letters, words, and sentences from dictation and from the black-board. Sentences made in the language lessons to be used for writing exercises.	*3½ hours a week.* Numbers from 1 to 100. 1. Adding, subtracting, multiplying, and dividing, with results in figures. 2. Relations of numbers from 1 to 100. 3. Roman numerals to C. 4. Liter and dekaliter; dekameter.	*2 hours a week.* Drawing on paper in books. Review work of Classes V. and VI. on paper. Even quality of lines. Subjects of lessons in previous classes repeated in regular order.	*1 hour a week.* Review, and advance to end of No. 20. Scale practice by singing and writing. Rote songs.	*50 minutes a week.* Twice in the forenoon and once in the afternoon.	*½ hour a week.*	*½ hour a week.*
I.	*2 hours a week.* Same as in Classes II. and III.	*2⅔ hours a week.* Work of Class II. continued. Complementary colors. Harmonies or colors. Plants and animals gathered into families. Vegetable, animal, and mineral products distinguished. Observation of the qualities and mechanism of things as adapted to their use.	*7 hours a week.* Reading from a Reader of a proper grade. Supplementary reading. Spelling as before.	*2 hours a week.* Words and sentences. Sentences used in language lessons will furnish material for exercises. The proper form of dating, addressing, and signing a letter; also the correct method of superscribing an envelope.	*3½ hours a week.* Numbers from 1 to 1,000. 1. Combinations of hundreds, and of hundreds with smaller numbers. 2. Adding, subtracting, multiplying, and dividing numbers from 1 to 144, with results in figures. 3. Relations of numbers from 1 to 144. 4. Adding and subtracting, multiplying and dividing numbers from 144 to 1,000, no multiplier or divisor larger than 10 being used. 5. Roman numerals to M. 6. Centimeter; gram and kilogram.	*2 hours a week.* Drawing on paper in books. Review work of Classes IV. and III. on paper. [For further description see programme of instruction issued annually.]	*1 hour a week.* Charts from 21 to 36 inclusive. Rote songs. Writing of scales in different keys.	*50 minutes a week.* Same as in Class II.	*½ hour a week.*	*½ hour a week.*

Opening Exercises, ½ hour a week. Recesses, 2½ hours a week.

OUTLINE COURSE OF STUDY.—GRAMMAR SCHOOLS.

See Suggestions for the different Studies.

CLASSES.	LANGUAGE.	ORAL INSTRUCTION.	READING AND SPELLING.	WRITING.	ARITHMETIC.	GEOGRAPHY.	HISTORY AND CIVIL GOVERNMENT.	PHYSICS.	BOOK-KEEPING.	DRAWING.	MUSIC.
VI.	*3 hours a week.* Oral and written exercises in the use of language as the expression of thought. Exercises the same in kind as those of the Primary Schools, adapted to the capacity of pupils of this class. Letter-writing.	*2½ hours a week.* Elementary studies in Natural History. Plants,—May to Nov. Animals,—Nov. to May. Qualities and properties of objects. Talks about trades, occupations, and articles of commerce. Poetry recited.	*6 hours a week.* Reading from a Reader of a proper grade. Supplementary reading throughout the course. Spelling from the reading and other lessons; chiefly written exercises.	*2 hours a weeks.* Two books each half-year. Blank-books at alternate lessons.	*4 hours a week.* 1. Combination of thousands; writing and reading integers. 2. Relations of tenths, hundredths and thousandths to units; writing and reading decimals to thousandths. 3. Addition and Subtraction of integers to millions; of decimals to thousandths; and of U. S. money. 4. The units of U. S. money with relations to one another; also, of Liquid and Dry Measure. — Oral exercises with simple numbers, to precede and accompany Written Arithmetic.	*2 hours a week.* Oral lessons, with the use of the globe and maps, as soon as the class is prepared for them.				*1½ hours a week.* (As in Rules and Regulations, Chap. XXVIII.) Drawing on paper in books. Review lines, angles, and figures on large scale. Division of lines into equal and unequal parts. Figures inscribed within and described about figures. Elementary design. Dictation and memory. Proportion of parts to whole design.	*1 hour a week.* (As in Rules and Regulations, Chap. XXIX.) Music Charts, Second Series. Exercises and songs in the first 20 pages of the Charts, and in the first 33 pages of Second Music Reader. Continued practice in writing.
V.	*3 hours a week.* Same as in Class VI.	*2½ hours a week.* Subjects of Class VI. continued. Talks about common phenomena. Stories. Anecdotes. Poetry recited.	*6 hours a week.* Reading from a Reader of a proper grade, or its equivalent. Spelling as before.	*2 hours a week.* Two books each half-year. Blank-books at alternate lessons.	*4 hours a week.* 1. Multiplication and division of integers; of decimals; and of U. S. money. 2. The units of Avoirdupois weight and of Troy weight, with their relations. — Oral exercises.	*2 hours a week.* Oral lessons continued, with such use of the text-book and such map-drawing as is appropriate.				*1½ hours a week.* Drawing on paper in books. Tangency of curved with curved, and curved with straight lines. Review compound and simple curves on large scale. Abstract curves Details of historical ornament. Conventionalism explained and illustrated. Repetition on an axis and around a centre. Geometric views of objects. Dictation and memory. Elementary design, with conventional leaves. Geometrical drawing with compasses. Definitions, and eight problems.	*1 hour a week.* Charts, from No. 21 to 40, inclusive. Chromatic scale, both in singing and writing. Songs at option of teacher. Rules of breathing.

IV.	*3 hours a week.* Same as in Classes V. and VI.	*2½ hours a week.* Elementary Natural History continued. Common metals and minerals. Useful woods. Stories from Mythology and Ancient History. Poetry and prose recited.	*5 hours a week.* Reading from a Reader of a proper grade, or its equivalent. Spelling as before.	*2 hours a week.* Two books each half-year. Blank-books at alternate lessons.	*4 hours a week.* 1. Factors, measures and multiples. 2. Common Fractions. 3. The units of Long, Square, and Solid Measure, with their relations. 4. Decimal Fractions reviewed and completed. — Oral exercises.	*3 hours a week.* Study of the earth as a globe, with reference to form, motions, parallels, meridians, zones (with their characteristics), winds, currents, and the life of man as varied by climate and civilization. The physical features of the grand divisions studied and compared; with map-drawing.				*1½ hours a week.* Drawing on paper in books. Filling of geometric shapes with conventional ornament. Details of historical ornament, unsymmetrical. Abstract curves based on the spiral. Conventional leaves. Objects in profile. Dictation and memory. Elementary design. Processes of mechanical repetition. Geometrical drawing with compasses. Problems 9 to 44.	*1 hour a week.* Charts (Third Series.) Scale and staff intervals. Singing in different keys up to three sharps and four flats. Practice of the first 20 numbers in Charts, and first 22 pages of Third Reader.
III.	*3 hours a week.* Same continued. Grammar begun: The parts of speech; Analysis of simple sentences.	*2 hours a week.* Elementary Natural History continued. Physiology begun. Stories of life in the middle ages. Poetry and prose recited.	*3 hours a week.* Reading from a Reader of a proper grade, or its equivalent. Spelling as before.	*1½ hours a week.* Two books each half-year. Blank-books at alternate lessons.	*4 hours a week.* 1. Metric System. 2. Percentage:— (*a*) Simple interest. (*b*) Discount. — Oral exercises.	*2½ hours a week.* Physical and political geography of the countries of the grand divisions begun; with map drawing.	*2½ hours a week.* United States History to July 4th, 1776.	*1 hour a week.* Outlines of Physics, to be taught as far as practicable by the experimental method.		*1½ hours a week.* Drawing on paper in books. Horizontal, vertical, and central repetition compared. Details of historical ornament. Common objects. Enlargement and reduction of ornamental details. Symmetry of unsymmetrical lines. Elementary design from historic details. Dictation, memory, and design combined in single lesson. Geometrical drawing with compasses. Problems 45 to 73.	*1 hour a week.* Charts. Reverse Charts of Third Series to be completed. Songs in various keys. Transposition from one key to another. Vocal culture continued.

OUTLINE COURSE OF STUDY. — GRAMMAR SCHOOLS — *Continued.*

CLASSES.	LANGUAGE.	ORAL INSTRUCTION.	READING AND SPELLING.	WRITING.	ARITHMETIC.	GEOGRAPHY.	HISTORY AND CIVIL GOVERNMENT.	PHYSICS.	BOOK-KEEPING.	DRAWING.	MUSIC.
II.	*3 hours a week.* Exercises in writing continued. Business Letters. Grammar: The subdivisions of the parts of speech; inflections of nouns, pronouns, verbs, adjectives, and adverbs; analysis of easy complex and compound sentences The rules of syntax illustrated by familiar examples.	*3 hours a week.* Physiology. Biographical and historical sketches. Poetry and prose recited.	*3 hours a week.* Reading from a Reader of a proper grade, or its equivalent. Spelling as before.	*1 hour a week.* One book each half-year. Blank-book alternately.	*4 hours a week.* 1. Percentage continued. (*a*) Commission and other simple applications. (*b*) Profit and loss. (*c*) Partial payments. (*d*) Compound interest. 2. Ratio and proportion. 3. Compound numbers completed. — Oral exercises.	*2½ hours a week.* Physical and political geography of the countries of the grand divisions completed; with map-drawing.	*3 hours a week.* United States History completed and reviewed.	*1 hour a week.* Outlines of Physics continued.		*1½ hours a week.* Drawing on paper in books. Historical objects. Subtlety of curvature. Elementary design from given subjects. Enlargement and reversing of objects. Model and object drawing: 1st, from copy; 2d, from object. The ellipse, perspective of the circle. Regular forms and irregular natural forms based on them. Geometric basis of objects of use. The cone and cylinder, and objects based on them. The sphere, spheroid, and ovoid, and objects based on them.	*1 hour a week.* Fourth Music Reader. Solfeggios from page 50 to 78. Also, Triad Exercises from page 79 to 84. Frequent change of parts. Songs at option, but with exclusion of rote-singing. Continuation of writing exercises and transposition.
I.	*3 hours a week. 1st half-year.* *3½ hours a week 2d half-year.* Exercises in writing as in the preceding classes, with the application of grammar to ordinary English.	*1 hour a week.* Conversational lessons on topics and allusions connected with the studies. *1 hour a week.* Declamation or Recitation.	*2½ hours a week.* Reading from a Reader of a proper grade, or its equivalent. Spelling as before.	*1 hour a week.* Commercial and miscellaneous forms. Blank-book alternately.	*3½ hours a week. 1st half-year.* *4 hours a week. 2d half-year.* 1. Powers of numbers. 2. Square root and its common applications. 3. Mensuration. 4. Reviews. [After completing the reviews, — cube root and its applications, equation of payments, and exchange may be studied.] — Oral exercises.	*3 hours a week. 1st half-year.* General reviews, Astronomical and physical phenomena, and political and commercial relations, more carefully studied. Maps of the grand divisions of the United States and of Great Britain, drawn from memory.	*3 hours a week.* History of England. Constitution of United States; of Massachusetts.	*1½ hours a week.* Outlines of Physics continued.	*2 hours a week. 2d half-year.* Single Entry: Day-book, Cash-book, and Ledger, to be kept. Practice in the use of common Business Forms.	*1½ hours a week.* Drawing on paper in books. Elaborate details of historic ornament compared. Natural foliage, copied with pen and ink. Elementary design from given subjects in given shapes. Half-tinting. Memory drawing of designs. Model and object drawing: 1st, from copy; 2d, from object. The perspective of parallel lines in rectangular objects. Cube, prisms, and pyramids, and objects based on them. Botanical analysis of plants, for designs.	*1 hour a week.* Fourth Music Reader. Solfeggios from page 50 to 78. Also, Triad Exercises from page 79 to 84. Frequent change of parts. Songs at option, but with exclusion of rote singing. Continuation of writing exercises and transposition.

Physical Exercises, 50 minutes a week. Every class to practise in concert proper physical exercises not less than five minutes each session. (Regulations, Sect. 234.)
Sewing, 2 hours a week for girls. (Regulations, Sect. 235.) Opening Exercises, Half-hour a week. Recesses, 1 hour 40 minutes a week.

SUGGESTIONS ACCOMPANYING THE COURSE OF STUDY FOR GRAMMAR AND PRIMARY SCHOOLS.

NOTE. — These are suggestions, not directions. They have been prepared in the hope of helping our teachers to follow the revised course of study with greater ease. But there is no intention of restricting the methods of teaching, or of turning any one from methods that have been tried successfully, to those that are untried. There is only one end in education, but there are many means of reaching it; and the teacher who has his own means, and those effective, has the best for *him*.

LANGUAGE.

Primary Schools.

The purpose of these lessons — which is, to accustom pupils to express what they know in language suited to their age and capacity, at first orally and afterward in writing — should be kept constantly in mind by the teacher, to stimulate her invention, and to guide her judgment in the adoption of the best methods.

The programme can do little more than to indicate the importance of this work by the time allotted to it, and to suggest some among the many methods which the ingenious teacher will use. Nor is it possible to set definite limits to the work to be accomplished by the several classes. This will depend much on the capacity and aptness of the teacher, and cannot fail to manifest its results in any examination to which the pupils may be subjected. It will, of course, be understood, that, though the exercises are essentially the same in the several classes, they are expected to be progressive, and that pupils should be thrown more and more on their own resources as they advance.

It may not, however, be improper to caution the teacher against the expectation of great and immediate results. The process must necessarily be slow in its early stages; but, if intelligently persevered in, its effects will be felt with increased force as pupils advance to the grammar and high schools.

In the oral exercises pupils should be required to speak audibly and distinctly, and to make *complete sentences.* This cannot be too strongly insisted on. An answer given in a word or phrase, which can only be understood by knowing the question, does not secure the end desired.

As soon as pupils begin to write, care should be taken that every sentence should begin with a capital, that the words should be spelt correctly, and that a period should be placed at the end of a sentence that tells something, and a question-mark at the end of a sentence that asks a question. Beyond the use of these two punctuation-marks, it would seem unnecessary to trouble pupils in the primary schools, since the sentences that they form will be short, and they are not able at this stage to make proper discrimination in the use of the comma, semicolon, &c.

The earnest teacher will experience little difficulty in finding material for these language-lessons. The pictures in the reading-book, the selections that the pupils read, and whatever may arouse their curiosity, and lead to habits of observation and discrimination, the skilful teacher will use: especially the oral lessons on plants and animals will furnish interesting and instructive material, that may be used indefinitely.

At first only the most prominent objects in a picture, or the most obvious qualities of an object, should receive attention. Thus, in examining a picture in the reading-book, in answer to suggestive questions by the teacher, the pupil will say, that he sees two little girls; that they are looking at a bird's nest; that the nest has four eggs in it; and that the bird is sitting near by on the branch of the tree.

This, perhaps, is sufficient for the lowest class. At a later stage the skilful teacher will find no difficulty in interesting the pupil in the skill with which the nest is made, the beauty of the eggs, and the motherly anxiety of the bird whose hiding-place has been discovered.

No doubt the pupils will at first, and for some time, require much assistance, which may be given chiefly by suggestive questions, leading them to name the most important thing or quality first, and then to speak of other things in relation to it.

Whenever an imperfect or ungrammatical sentence is made, it is recommended that an opportunity be given for some pupil to correct it. As pupils advance, more particular descriptions may be brought out by judicious questioning. In some such way as that indicated above, it is believed that these oral exercises may furnish material for elementary lessons in composing and writing.

LANGUAGE.

Grammar Schools.

The purpose of these lessons is the same as that of the primary lessons, — to develop the power of oral and written expression. The attempt to do this by a study of the technicalities of grammar has proved a failure; and it seems now to be generally admitted that facility in the use of language can only be acquired by abundant exercise in using it as the expression of thought.

The time specially allotted to this does not, perhaps, fully indicate what is regarded as its relative importance to other studies. All the recitations, whether oral or written, in whatever branch, should be regarded also as exercises in the correct use of language. The material for these lessons will thus be found, to some extent, in the subjects suggested for the primary schools, and also in the lessons in geography, history, and almost all the branches taught in our schools. Nothing fixes knowledge so definitely in our minds as to state it in our own language. Much information on subjects not connected with the school work may be imparted by the teacher, to be reproduced by pupils in these lessons. As in the primary course, it is impossible to assign definite limits to the work of the several classes: it is, perhaps, enough to say that it should be progressive, more being required both in thought and expression as we advance towards the higher classes. It is believed that a careful supervision of the work of the several classes, by the principal, with an occasional test of their success, may, in time, furnish a proper standard of the results to be expected in the several grades.

ORAL INSTRUCTION.

Primary Schools.

This phrase is applied to that department of instruction which aims to secure proper mental activity in children by the study, first of their surroundings, and afterward of whatever is appropriate, though unfamiliar. Children are naturally observant and curious. They begin early to care for plants, animals, and other things around them. We need only to cherish and guide their curiosity, in order to train their eyes to quick seeing, their ears to attentive listening, their hands to careful handling; and thus to lead them, through the use of their perceptive faculties, to the development of thought and to its proper expression.

For introductory lessons in the lower grades, the teacher may present familiar animals and plants, in the living forms, in preserved specimens, or in pictures; choosing, as far as possible, those which represent families, — as the cat, the dog, the duck, &c. The lessons upon any animal may begin with the characteristics which are best known, — whether habits, uses, or structure. Thus, a talk about the habits of the cat may lead to adaptations of structure; while the uses of the cow or the horse may lead to the study of parts. Later, by comparing different animals, attention may be called to marked likenesses and differences.

In studying common objects with little children, the teacher may direct observations to the most evident properties, — form, color, and general qualities. Under this last head may be included, in the higher grades, the study of measure, weight, size, place, direction, &c. Simple scales and a few measures, which may be easily obtained, will furnish means of recreation and of profitable occupation.

"Little and often" is the secret of success in primary schools; and a few minutes of each session, rightly employed in oral instruction, will give large results. The teacher gets many hints by studying children at their play, watching the natural activity of their faculties, and noticing that, while intensely interested for a little while, they soon turn to a new amusement.

Whether at play or in school, children can be kept interested and busy only by frequent changes of occupation. This needed variety is, however, the opportunity of the primary teacher; and, by using it wisely, the children are brought to a varied though simple knowledge of the world in which they live. The mistake of trying to teach too much in any direction should be carefully avoided, especially in the lower classes.

While hints and suggestions may be sought on all sides, the teacher should not look for models to be blindly copied. The details of her method should be her own, adapted to the special circumstances, and varied by her own experience of success or failure. Certainly no work in any grade of schools can be a surer test of teaching-ability, or of the range and accuracy of a teacher's knowledge.

The true teacher will begin with the child where he begins; remembering always, that, while he will be constantly gaining useful information, his mental development is the more important result. He should, therefore, be told nothing which he can find out readily for himself, through the exercise of his perceptive faculties in examining objects, natural and artificial. At the proper time, he will, by comparison, form judgments, and find ways to express them. This training is fundamental, and will facilitate progress in the higher grades of instruction.

Applying these principles to any line of oral teaching, it may be said, first, that the material for the lessons must be well chosen and skilfully presented; secondly, that as the natural movement of the child's mind is toward the new, in the direction of his curiosity, much will be gained by such change of material as will give novelty while reviewing the points of former lessons. The materials for studying the common qualities of objects are easily accessible; and, for lessons on color, different-colored worsteds, silks, tissue-papers, bits of ribbon, pattern-cards, &c., will serve a good purpose, even where color blocks and charts are provided. The inventive and interested teacher will have no difficulty in finding resources.

As a result of proper oral teaching, the vocabulary given, and the ideas it represents, will be so naturalized in a child's mind, that the presentation of a new object will suggest as many of the known terms as are applicable to it; thus making "an object-lesson," in the technical sense, possible and profitable.

Children should be able to tell, in simple, easy sentences, *what* they know of any object studied, and *how* they learned it. They will thus take their first steps in language naturally, and will add daily to their vocabulary. Freedom and variety of expression should be encouraged; and the teacher should be careful not to fall into the use of formulæ, or set phrases, however well understood.

By these and similar methods, proper early training is given to the observing powers by their daily use; to the memory, so retentive in childhood, by learning to apply and to spell new words as they are introduced; to the judgment, by the comparison of objects as to their similarities and differences; and in the use of language, by practice in oral and written descriptions; while incidentally, yet surely, the habit of close attention is formed. At intervals the teacher will naturally call up mental images of absent objects, or will encourage a child to describe what he is thinking of, so that the class may be able to guess his thought; and thus the teaching will become conceptive, and begin to train the imagination. Familiar fables and stories that illustrate traits of character may be introduced, by which effective moral influence and valuable aid in discipline will also be secured.

If such teaching gives proper play to all the faculties, and helps to develop the child's whole nature, may it not claim the thoughtful preparation and the best efforts of every primary-school teacher?

ORAL INSTRUCTION.

Grammar Schools.

With the same purpose in view, the same methods will apply to grammar schools as to primary. Children learn to see by seeing, and to think by thinking. As they pass on to higher grades they will be prepared to observe more and more the relations of things, — how they depend upon each other; how they differ from and resemble each other, — and so to begin to arrange them into natural classes. Thus the simple lessons from nature will become elementary studies in natural science, giving fresh enjoyment, and bringing healthful moral influences, through an intelligent and reverent appreciation of nature and of life. More and more may be done each successive year to cultivate the taste and the imagination, and to prepare for the practical duties of life.

Simple talks about the sun, moon, and stars; about the common phenomena of wind, clouds, rain, frost, &c.; about what we obtain from plants, animals, and the mineral world, and how it is prepared for use, thus leading to lessons on trades, occupations, and commerce; stories of life in ancient times, in the middle ages, in other countries; accounts of great discoveries and inventions; vivid biographical sketches, — all these and many more topics will be fruitful resources for mental training, while they illustrate the reading, geography, and history lessons, and furnish abundant material for language lessons, oral and written. The aid needed in preparing for this oral instruction will be found in such books as Miss Yonge's Stories of History, Hawthorne's Wonder Book, Bulfinch's Age of Fable and Age of Chivalry, Cox's Tales of Ancient Greece, Wood's Homes without Hands, and recently published books on familiar science and natural history.

Teachers should not be troubled with the question, "how much is to be accomplished with any class," but should seek to secure the best results in the time assigned to this department, letting the range of topics treated vary with the character and ability of the different classes.

PHYSIOLOGY.

The chief purpose of a series of lessons in physiology, in the grammar-school course, is to give that knowledge of the structure and functions of the human body which is essential to the preservation of health. The following topics may be treated with reference to their practical bearing, and with great freedom from the technicalities of scientific study: —

I. The framework of the body, — important as a protection for the internal organs, and for the attachment of the muscles. The structure of bones, as adapted to their use. The principal parts of the skeleton, and their contents, without putting stress upon the number and names of the bones.

II. The muscles, as a motor apparatus. Their structure as adapted to their use. How motion is effected. Use of joints, tendons, and ligaments.

III. The growth and renewal of the parts of the body, as dependent upon good food, good blood, good air.

Digestion — organs of; use of each; process and result of digestion.

Circulation — organs of; their use; course of the blood.

Respiration — organs of; their use; effects of good and bad respiration.

IV. The skin. Its structure and functions.

V. The nervous system as the directing power in the body, and the special senses briefly treated.

VI. Hygiene: naturally treated in connection with the preceding topics, but the following points may need special emphasis: —

Exercise — amount and limits of.

Food — quality, quantity, time, and manner of eating.

Bathing, clothing, posture, ventilation, sleep.

Conditions for and amount of mental labor.

READING.

The object to be sought in this branch of instruction is twofold. The pupils should be taught (1) to *take in*, with the eye and the mind, the meaning of the printed sentences; and then (2) to *express* this meaning intelligently by the voice. The reading matter should therefore be suited to their understanding, or not far above it.

The methods used to accomplish this result in the different grades must vary with different teachers. Good sense, helped by observation and experience, will suggest new and changing ways of interesting the pupils, and of advancing them in the various steps.

The following suggestions may be of use: —

After children have learned to recognize simple words, they may be taught to read short, simple sentences from the blackboard or chart and from the book, the teacher aiding them by reading each sentence; for at the outset they can be expected to do little except by imitation.

Bad habits formed at the beginning will be very hard to correct, either by the teachers who allow the children to form them, or by the teachers who next receive the class: such a habit, for example, as that of uttering the words one by one, slowly and monotonously. The articles *a* and *the* should from the first be pronounced with the following word, as if they formed a part of it; for instance, *a boat*, *a goat*, should be spoken as if they were single words like *about*, *ago*. So, too, the pupils may from the outset be taught by the example of the teacher to read *in phrases;* e.g., The-two-kits lap-the-milk in-the-pan.

Some explanation of what is to be read is often needed in every grade. Proper emphasis and expression of the simplest kind are impossible if one does not understand what he is reading; but, when the thought is well understood, the reader, of whatever age, may be expected to express it in an easy, natural manner. In the lower grades, and with more difficult selections, the teacher will of couuse prepare the lesson with the class, — explaining, questioning, and making clear all new and hard words and phrases. A talk about the picture will often give an opportunity to make the children familiar with words which they are to meet for the first time in print.

It is better to take the easier and more interesting selections first.

As the teacher sets copies on the blackboard for writing, so he should set an example in reading naturally and intelligently. It is not *rules* for reading that will help the children, but *imitation* and *practice* of a natural manner of reading.

Constant care must be taken to prevent screaming, shouting, and drawling. A natural pitch of the voice, — not too high, — pleasant intonation, and distinct articulation, should be aimed at. Declamatory reading is never desirable, but a style of reading suited to the home-circle should be cultivated.

If a pupil miscalls a word, it is not best to correct by repeating the isolated word, but rather to give the whole phrase of which it is a part.

It is well for the teacher and a part of the scholars sometimes to close their books, and listen to the reading of others. Or sometimes one or two copies of some book containing an interesting story may be passed from one scholar to another, the class listening. The hearers will wish to understand the whole story, and the readers will be incited to read so that they can be understood.

Pupils should frequently be called upon to give, in their own language, the sense of a paragraph or sentence which they have just read. So, after the lesson has been read, they should be called upon to give, in their own language, an oral or written account of its contents.

Each class should go over as much ground as possible, provided that all be fairly understood and read understandingly. The text-books assigned to the various classes indicate not the *amount* to be read, but the *kind* of reading-matter to be used. No exact limits can be fixed as to what is to be read within a given time. The classes should have as much *supplementary* reading as possible, outside the book assigned. The "Nursery" and Mrs. Rickoff's "Monday Mornings" are specimens of suitable reading, equivalent to a Reader of the "Second" or "Third" grade. Equivalents to the higher grades can be found in the reading-books prescribed for the Latin School.

As soon as a child can read easy sentences, he should be encouraged to read other books than the reading-books.

It is impossible to state the exact results which are to be expected in each class. The intelligent and ingenious teacher, who aims to accomplish the object first mentioned, will produce satisfactory results.

SPELLING.

In the outline course of study spelling is associated with reading, but it belongs quite as properly with language lessons, writing, and other branches. The practical use of correct spelling is found only when thoughts are expressed in writing. Exercises in spelling should therefore, be as far as possible, written. The aim all along should be for the pupil to be able to spell the words of his own vocabulary. He should have constant practice in familiar words and also in the new words met in any of his lessons. It is too much, of course, to expect him to remember the correct spelling of *all* the words of his constantly increasing vocabulary; but he may at least be spared useless drill upon words which he cannot use and of whose meaning he is ignorant. It is desirable to train children to spell correctly common words; but they should not be expected to spell unusual and difficult words.

As early as possible passages from the reading-lessons should be copied, and sentences should be written daily from dictation. The sentences which the pupils make in their oral exercises, or in their language lessons, will thus give material for a spelling-lesson. When the pupils are far enough advanced they may write out the substance of any of their daily lessons in geography, history, physiology, &c., or copy good passages of prose and poetry. It is manifest that words spelled thus, in vital connection with each other and with their meaning, will be better remembered than when they are written in lists as isolated, dead fragments.

Care should be taken that the pupils copy correctly. The imitative faculty being strong in children, they would, no doubt, make fewer mistakes if they were never to see or hear words misspelled.

Through the whole course of study, beginning with the earliest attempts, pupils should be held responsible for good spelling in all the written exercises connected with the various branches.

Varied and interesting methods to secure good spelling, and at the same time to lead pupils to a good choice of words in speech and writing, will occur to teachers. Among these may be mentioned the use of synonymes; of words of similar meaning that cannot be substituted one for another; of the different modes of forming derivatives from root-words, &c. Pupils in the upper classes may be led to perceive the few fundamental rules of orthography and pronunciation which belong to our language.

WRITING.

A good handwriting, free, uniform, legible, and natural, is better than engraved copies; and, to secure this, much more depends on the teacher than on the system taught.

A well-arranged, progressive series of lessons in copy-books is indispensable in order to discipline the hand to regularity, and to correct errors; yet too exclusive use of engraved copies tends to destroy individual characteristics, — an essential element of the best writing.

Good position, securing the power to move the hand and arm in any direction, — without which we cannot write easily or legibly, — is fundamental; hence, from the lowest to the highest grades, correct position, movement, and form, should be systematically and persistently taught, — good forms made and analyzed, and poor ones corrected, by illustrations upon the blackboard.

Neatness and legibility should be required in the written exercises in connection with the various studies.

To encourage and secure the individuality which ought to characterize good writing, blank books, in which to copy valuable maxims, choice selections of prose and poetry, abstracts of lessons, &c., are recommended to be used, alternating with the copy-book.

Upon the lowest line of each page of the copy-book let the pupil write his name and age, the name of the school and class, and the date when the page was completed.

Retain the last set of writing-books finished till another set is completed and criticised.

ARITHMETIC.

The course of study in arithmetic includes only subjects that are either essential or useful, and that may, if studied in their proper order and by natural methods, be understood by the pupil. From the beginning to the end of the course he is to acquire a real knowledge of numbers and of their relations and uses. Although a knowledge of arithmetical terms, figures, and processes is essential to the expression and use of numbers, it cannot be a substitute for a knowledge of numbers themselves. The immediate end to be reached in the study of arithmetic, as well as of other subjects of elementary instruction, is the acquisition of a useful amount of real knowledge, with the ability to use it understandingly and readily, and to express it correctly and clearly. If this knowledge, acquired in the right order and in a sensible manner, be simply and naturally expressed in the language appropriate to arithmetic, numbers and their expression will be so firmly associated that the one will naturally respond to the other.

Not only should the pupil be kept from repeating mere words and figures as if they were numbers, and mere formulas and processes as if they were reasons and ends, but also from the opposite, though lesser, evil of slighting the sign and the process. Correctness in the use of figures is essential, and, if cultivated with the understanding, has a not unimportant moral influence. On the other hand, rapidity, although desirable, is not indispensable, and, when made an end, is too likely to consume the time, which, instead of being spent in acquiring unnecessary skill, might be given to a more intelligent and useful exercise.

Let the pupil, then, do real work in numbers, and let him express what he does; to the end that he may by daily exercise, grow into a clear and useful knowledge, and that he may express that knowledge by the language of arithmetic, instead of studying the language as if it were arithmetic itself.

Happily, in acquiring the most useful knowledge of arithmetic, a pupil must at the same time receive the best mental training that this study can give. At least in this subject "practical utility" and "mental discipline" are not at variance; neither need be sacrificed to the other.

The School Board has determined the general subjects of the course in arithmetic, and the general order of subjects, but has left details and — with some slight exceptions — methods to the wisdom and skill of the teachers themselves. Of the familiar principles which should determine the methods of teaching arithmetic, none deserve greater attention than the following: —

1. That in childhood the activities of perception are greater than other mental activities. 2. That both single and related perceptions must be clear and distinct in order that the memory may do its proper work. 3. That the imagination and reflec-

tive powers of children cannot live and thrive on abstractions, but must feed daily and hourly on present or recalled perceptions, or on conceptions that may at any moment be realized in thought. 4. That children — when their minds are acting freely and naturally — think and reason, and can no more help thinking and reasoning than they can help seeing when their eyes are open. 5. That the mind is not educated until its power, not only of gaining knowledge without help, but also of applying and using its knowledge, has been drawn out, and made effective.

Although these principles do not apply to instruction in arithmetic alone, yet the right methods of teaching it depend especially upon them. They plainly teach —

1. That arithmetic, although a deductive *science*, should at first be studied and taught inductively; that, accordingly, objects of sense — especially those of sight, of sound, and of the muscular sense — should be numbered singly and in groups by the child; that the numbered objects and groups of objects, present, recalled, or imagined, be of so many kinds, and be represented so often by the same figures, that the child will gradually learn the general ("abstract") nature of numbers and the general office of figures; that the operations be at first with numbered objects and groups, and be so simple, of so many kinds, and expressed so frequently by the same signs and figures, that the elementary truths of arithmetic will, in a general form, begin to dawn on the mind of the child.

2. That figures and names of numbers should, at first, be associated *immediately* with numbered objects and groups whose relation to each other is distinctly perceived, and with the simple mental work that the child actually does in order to reach a certain end; afterwards, slowly and understandingly, with numbers themselves, and the operations performed with them; and, untiringly, year after year, with real and representative problems both within and slightly beyond the knowledge and the ability of the child to solve: to the end that "the memory may do its proper work," and may not, because eye and ear have been trained to associate only names of numbers with names, figures with figures, operations with little or nothing that is actual and intelligible, be left to the fatal and wasteful process of recalling little else than unmeaning signs and sounds.

3. (1) That, because much of the mental activity of a child consists in forming the images of sensible objects and in the play of the imagination, he should be allowed and encouraged to number the familiar objects which he has recalled or which are pictured before him, and, by changing their number, together with their size, form, or color, and the time, place, or other circumstance connected with them, to make up simple problems which may be solved by himself or his classmates. (2) That, as thought involves a consciousness of identity, similarity, or difference, and as these relations are the basis of thought in numbers, but cannot be clearly conceived in an "abstract" form by children, there should be at the very start and during the study of elementary arithmetic exercises which involve the perception of the relations of numbered objects; that, accordingly, the following questions, varied, of course, in matter and simpler in form, should be asked, and their answers should be sought and found by the pupils themselves. [The questions given below are not such as should be put to the pupil. They merely indicate the subjects and the order. The questions actually put should be in the simplest form, and be varied according to circumstances.]

Primary School, Class VI. — *a.* How many objects [of sight, sound, touch, motion, &c.] do you perceive [see, hear, touch, move, &c.; whether at once or in succession]? *b.* How many objects in a certain group [or collection, line, series, &c., natural or artificial]? *c.* How many objects in two groups [and more; whether equal or unequal in number; whether perceived at once or in succession]? *d.* How many groups? *e.* How many objects after adding a certain number? *f.* How many objects after subtracting a certain number? *g.* How many more objects in one group [and in several groups] than in another [and in several others]? *h.* How many less? *i.* How many objects of a group must be taken away from it in order that there may *be* a certain number left in it? *j.* How many objects must be added to those in a group in order that the sum may *be* a certain number? *k.* How many objects must be added to or taken away from a group in order that the sum or difference may *be equal* to the number of objects in another group? [Such exercises as are indicated by the foregoing questions should be continued until the child (1) recognizes and names one object and the number of objects in groups of two, three, four, and five; (2) combines every two or more of these groups into a single group of not more than ten objects, and names the number; (3) is able to find out the relations of addition and subtraction, (4) and of more and less, between every two groups of not more than ten objects. (See illustrations of (2), (3), and (4), under *i.* and *j.* in Class V.)]

Class V. — *a.* If the number of objects in each of the equal groups and the number of groups be known, how many objects are in all the equal groups? Also, *b.* how many objects in all the equal groups, together with those in a smaller group, if there be one? *c.* If the number of objects in each of the equal groups be known, how many groups must be combined to form a group of a given number of objects? *d.* How many objects must belong to each group, in order that a given number of equal groups may be combined into a group of a given number of objects? *e.* If the whole number of objects and the number in each of the equal groups into which the whole number is separated ("divided") be known, how many equal groups are there? Also, *f.* how many equal groups are there, and how many objects in the remaining group, if there be one? *g.* If the whole number of objects and the number of equal groups into which the whole number of objects is separated ("divided") be known, how many objects in each of the equal groups? Also, *h.* how many objects in each of the equal groups, and how many in the remaining group, if there be one? *i.* *In general*, of what numbers is each number of objects, not larger than ten, the sum? [e.g., Three objects are the sum of one object, one object, and one object; of two objects and one object; of one object and two objects.] Also, *j.* what is the relation of each number of objects not larger than ten to itself and to each of the other numbers not larger than ten? [(1) The relation by addition and subtraction; (2) by more and less, or by difference; (3) by multiplication, and by division in its two forms; e.g., *The relation of three and one to each other:* (1) Two objects added to one object make three objects; two of the three objects taken away leave one object. (2) Three objects are two more than one; one object is two less than three objects. (3) Three objects are three times one object; one object in three objects three times, and one object is one-third of three objects. *The relations of three and two:* (1) and (2), as above. (3) Three objects are either once two objects and one object more, or once two objects and one-half of two objects; two objects in three objects, either once with one object remaining, or once and one-half; two objects are two-thirds of three objects. *The relations of three and three to each other:* (1) If no objects be added to three objects, and if none of the three be taken away, the result will be three objects. (2) Three objects are neither more nor less than three other objects; i.e., three objects are equal to three objects. (3) Three objects are once three objects; three objects in three objects, once; three objects are three-thirds of three. It is suggested, that, as the relations of 1 to 1 cannot be easily apprehended, they be studied last, the following order being perhaps the best: 2 to 1, 2 to 2; 3 to 1, 3 to 2, 3 to 3; 4 to 1, 4 to 2, 4 to 3, 4 to 4; and so on to 10; and last, 1 to 1.]

CLASS IV. — *a.* What is the sum of the objects in a group of ten and a group containing less than ten? Also, *b.* of two groups of ten? *c.* What are the relations of addition and subtraction, and, *d.* of more and less, between ten objects and every number of objects from eleven to twenty? *e.* In general, of what numbers is every number of objects from eleven to twenty the sum? Also, *f.* what are the relations of addition and subtraction, of more and less, of multiplication and of division in its two forms, between every two numbers not larger than twenty? [Order: 11 to 1, to 2, to 3, and so on to 11; 12 to 1, to 2, to 3, and so on to 12; &c. See illustrations under *i.* and *j.*, Class V.]

CLASSES III., II., I. — [The relations correspond to those in the lower classes. See illustrations. If the relations of the smaller numbers be really perceived, and if they be often expressed by words and figures in solving the simple problems given, the pupils will probably need no other exercises to fix these relations in the mind. The limits of useful familiarity with results in addition and subtraction are plain. It is sufficient for practical purposes to know and to have ready for use the sum of every two numbers neither of which is larger than ten, and the difference of every two numbers neither of which is larger than twenty. If a pupil is familiar with these results, and has a real knowledge of decimal composition, relations, and notation of numbers, he is prepared to add and subtract with larger numbers. In multiplication and division the boundaries of desirable familiarity with results are not so plainly marked.

Logically, a hundred is the largest product and dividend, and ten the largest multiplier and divisor, that need be ready for use in the larger numbers. But eleven is so easy and twelve so useful a multiplier and divisor, that one hundred forty-four and twelve are not undesirable limits. Beyond the limits referred to, no special effort need be made to fix relations in the mind; the most useful, being used the oftenest, will fix themselves. Indeed, it is sufficient for the pupil to be *able* to find, within a reasonable time, the true relations of the larger numbers, and to express the results correctly.]

4. That, because children think and reason, — though not consecutively and logically, — they should be *allowed* to think and reason in numbers, inductively and by immediate inference at first, and deductively after arriving at simple truths; that, accordingly, neither "rules" nor principles should at first be presented to pupils, but simple facts which they can apprehend, and simple problems whose solution requires them to use their mother-sense, and does not prevent them by difficulties in matter and form from using naturally and understandingly their mother-tongue; that after a principle has been evolved from the solutions of simple problems, and has been clearly stated by the pupils, they may illustrate and apply it, may use it as a guide and a reason in their future and more difficult work.

5. That, in order to educate the power of applying and using the knowledge of arithmetic and of gaining further knowledge of it without help, the mind must be so exercised that it will be able not only to receive and reproduce ideas of number that have been clearly, orderly, and pleasingly presented to it, but also to make a positive effort to arrive at a definite end, although the way to it be hard and rough; and, accordingly, the ear and eye should be trained with the understanding to perceive readily what is given and what is required in the simple oral and written problems, and the mind, knowing the object to be accomplished, should do the work with no more than needed help; the problems should gradually become more difficult to solve, and should represent as nearly as possible reality; the inventive power should be exercised in making up both oral and written problems; and, finally, a "subject" should be studied by the pupil, and should, with little or no help, be mastered by him.

In teaching the metric system, instructors may be helped by reading Sawyer's "Metric Manual," and other publications of the Metric Bureau.

Each pupil should see, handle, and *use* the measures and weights. With the help of his teacher he can easily make, of wood, tape, paper, or of other material, a meter, and any useful part of a meter. In his drawing-lessons, he may represent a decimeter in length, and a square decimeter, and also submultiples and small multiples of these. In the number lessons, he may use to advantage ten splints or straws, each a decimeter long. By placing them in line he may illustrate any desirable part of a meter, and, at the same time, have an exercise in the relations of the first ten numbers. With four splints he may enclose a square decimeter; and, with simple apparatus, he may be made familiar, or, better, may make himself familiar, with the most useful units of volume, capacity, and weight. Whatever real knowledge of the metric system he gets, must help him in understanding the decimal system of numbers.

GEOGRAPHY.

This should not be a study of dry details, but of the home of man; the study of the diversified surface and varied climates of the earth; of the distribution of vegetable and animal life; and of the conditions of human life as to manners, customs, occupations, governments, and religions.

As travel broadens the ideas, so will the study of geography if rightly pursued; and pupils may increase the value of their lessons by reading books of travel, and stories of great explorers. The teacher can afford to deal sparingly in statistics, latitudes, longitudes, areas, and heights, and to avoid dry definitions and detailed map-questions, that lead only to a recital of names of places destitute of associations. Such knowledge is not worth the time it takes to acquire it, though it may secure rapid, accurate recitations. Rather let pupils be encouraged to express, in their own language, whatever of interest and value they may gain from the text-book and from other sources of information.

The first lessons, with little children, may be entirely oral, the teacher using vivid style and familiar language; the aim being to create an interest in different natural features and products, and in the customs and occupations of people in different parts of the earth. The teaching cannot be too simple, the treatment of subjects too familiar. It is proper to presuppose a certain preparation for geography in the primary schools, where the children will have heard of north, south, east, west; of plants and animals from hot and cold countries; and of different ways of living in different places. The teacher of geography may begin, then, by talks about travelling over the great earth to see it, to get what is needed here, or to carry to people in other parts what they need. She may address the imagination, and make the first lessons a series of word-pictures, as far as possible. Showing a globe, she may give an idea of the form and size of the earth; and by simple illustrations, — as, for instance, that plants grow on the land, and ships sail on the sea, and that everywhere birds fly into the air, — she may lead to the conception of land and water on the surface of the earth, and of air surrounding it.

The study of the natural features may begin with object-teaching, — a hill, a pond, a river, — whatever is known to, or can be seen by, the children. Pictures or blackboard drawings will serve to give the first ideas of unknown features; and a tray of moulder's sand, in which the children will delight to form mountains, valleys, peninsulas, &c., will be a valuable aid. After such conceptions children will read intelligently the concise expressions of the text-book, called definitions.

What the earth affords on its surface (or vegetation and animals); under its surface (as coal and metals); what the water affords (as fish, salt, and sponge); what is around the earth (leading to talks about wind, clouds, and rain), — these and similar topics will form a series of appropriate early lessons.

The children will thus come naturally to the need of maps; and by making a map of the streets in the vicinity of the schoolhouse, and a plan of the schoolroom, they will learn the difference between maps and pictures. Outline-maps of the grand divisions may be introduced, and the children may learn to point out rivers, mountains, bays, and other natural features, designating very few, if any, by their special names. It will be natural next to compare these maps with the globe, and to show the position of the grand divisions there, and, perhaps, the equator and the hot and cold parts. By simple methods the maps of hemispheres may be explained, and then briefly studied.

In the second year the children will be ready to take up such general study of the countries of each grand division as is adapted to their age. This study will be more interesting and useful if still largely oral, with such explanation of the text that the children may catch its full meaning before attempting to read it for themselves. The teacher may think it wise to take very early in this course the study of our own vicinity, and state, and country, giving more time and detail to it than to other parts. Map-drawing may be associated with this study of countries from the beginning, though it may not be desirable to insist yet upon drawing from memory.

A class will thus be prepared for what may be designated the second stage of study; or to take up a more careful, systematic course. This would naturally begin with further consideration of the form of the earth, the observation of the circles on the globe, easy statements and illustrations of the earth's motions, seasons, zones, and of the life of man as dependent upon surface, climate, and civilization. Here it would be interesting to point out the earliest civilized countries, to trace briefly the progress of discovery, and the transplanting of languages, manners, and customs, by colonization.

Then would follow the careful study of the physical and political characteristics of different countries, noting the dependence of the latter upon the former, and important historical associations; giving more or less time to each country according to its importance. Recitation by topics and map-drawing will be the indispensable accompaniments of this course. Rapid sketching of maps on slate or blackboard, as an aid to the study of countries and for reference during recitations, will be useful; but elaborately finished maps are unnecessary. It may be suggested, that, while a system of triangulation is an aid to many pupils, it is more difficult for others to hold it in the memory than to draw good outlines without it.

The third and last stage of study is intended to be a general review, with special attention to important points. The pupils of the first class are mature enough to form clear conceptions of the phenomena that belong to astronomical and physical geography, and of their effects upon climate and civilization. They can consider more fully than before the earth as a planet; the changes of the seasons; the variation in the length of day and night in different parts of the earth; the different daily path of the sun at different seasons; the variation in time as corresponding to variation in longitude; the causes of winds and currents; the contrasts in contour and relief and natural scenery; the commercial and political relations of different nations, with the special interests of each. They can thus arrange and classify knowledge acquired in previous years, and make it a permanent possession.

HISTORY.

The leading purpose of this study should be to awaken an interest in historical subjects.

Make prominent the men, localities, facts, and features that are of a representative character, so that the pupil will have a clear idea of the place each occupied in the development of the nation.

Maps and diagrams of places where important events have occurred should be made and freely used. Nothing assists more to fasten in the mind an event than a knowledge of the place where it occurred.

Short biographical sketches of persons prominent in different periods will help fix the time, place, and circumstances of the events in which such persons were conspicuous. Only a very few of the most important dates of such events as have become landmarks in history ought to be memorized. The order and sequence of events, rather than the exact date of each, should be the aim.

As little as possible, including dates, should be committed to memory. It is the thought, the relation of cause and effect, that is desirable; and this will rarely be secured if the pupil is required or allowed to commit and repeat the words of the text-book. The imagination especially should be cultivated.

Assign lessons by topics, not by sections or pages of the text-book, and require pupils to recite in their own language.

Encourage pupils to consult other histories beside the text-book, and to read any book illustrating the period studied. Historical relics, engravings and views of places historically important, should, if possible, be exhibited and explained.

In United States history carefully consider the principal discoveries and explorations, the settlement of such colonies as especially moulded and modified the social, political, and religious institutions of the country, the different kinds of government established by the colonies, and how they were united in a common defence, to secure their rights as set forth in the Declaration of Independence and embodied in the Constitution. The period since the establishment of the Federal Government should be more thoroughly treated than any other. It is better to know what the nation has done, how it has increased its territory, developed its resources, settled great and vital questions, and advanced to its present position, than to be acquainted with a large number of antecedent but less important facts.

The value of English history depends very largely upon connecting it with the history of our own country. Teachers are therefore recommended to pass more lightly and rapidly over the earlier periods, dwelling only upon such points as the earlier races, governments, and institutions, and reserving their labors in detail for the later periods, from about 1500 to our own time. No single text-book will be found sufficient.

In studying the Constitution of the United States, and of Massachusetts, read the documents themselves, referring from one to the other, and from both to the English Constitution, or those parts of it which are the sources of our own. We have here an excellent opportunity of studying history by original documents, and it should be made as much of as possible.

PHYSICS.

The course of study provides that the teaching of physics shall be "as far as practicable by the experimental method." The ingenuity of the teacher will doubtless find the practicability of this method under nearly all circumstances. It may be well, however, to indicate the reasons for introducing this branch of study earlier in the grammar-school course, and the nature of the work it seems desirable to accomplish in the respective classes.

The object of the change is to give to a larger number of scholars than heretofore the opportunity of obtaining such knowledge of the elementary facts and principles of physics, and such training in methods of observing and investigating, as will be helpful to them in life. As a large majority of these scholars are cut off from school privileges either at or before the end of the grammar-school course, the plan of instruction should have chief reference to their especial requirements.

Only the most familiar physical facts need be made the study of the third class. In some instances the underlying principle may be recognized; but the aim will chiefly be the cultivation of the observing faculty, and the attainment of some practical knowledge. It will not be necessary to follow closely any particular order of subjects or lessons. The result, however, will probably be an acquaintance, on the part of the scholars, with a few facts from most of the departments of physics, some understanding of simple mechanical principles and their applications, and considerable interest in experimenting.

In the second class former attainments may be tested, instruction continued with the same ends in view, attention given to the general divisions of the subject, and the classification of phenomena. Inquiry into causes will naturally come into greater prominence. This will demand much experimental practice, for the purpose of discovery or verification.

The way will thus be opened for systematic, and somewhat more comprehensive study in the first class. This will insure a review of previous work, and the completion of the outline study of the subject. More attention may be given in this class to physical laws and theories, to mechanical contrivances for utilizing the forces of nature, and to the principles involved in the construction of philosophical instruments. Experimental practice may thus be made more general and effective.

SEWING.

The main object of instruction in sewing is to fit girls for greater usefulness in their homes; and, to this end, the teaching should be progressive and thoroughly practical. Right beginnings will be secured by special attention, at first, to the posture of pupils, the proper holding of the work and of the needle, and the adaptation of needle and thread to the material in use. With sewing, as with all other branches of instruction, variety and interest are necessary to success; and the teacher will gain much by inducing parents to supply the little ones with work requiring only simple stitches and short seams, and to vary the material and kind of work as the instruction proceeds. As far as the teacher can control it, let the child have, at the start, the encouragement of making something useful, not the wearisomeness of taking meaningless stitches on meaningless pieces of cloth. And let her be promoted from one kind of stitch and garment to another, till she has learned all the varieties of useful sewing. Especially let her be encouraged to mend, patch, and darn well, to make good button-holes, to cut, fit, and baste her work, and to secure neatness of finish.

PHYSICAL EXERCISES.

A few exercises well done will be much more pleasing, interesting, and beneficial, than many indifferently performed; therefore teach a few well-arranged, simple movements that pupils can make without imitating the teacher or a pupil placed before the class to guide or direct the exercise.

Require precision and uniformity. If pupils know just what movements to make, without dictation from the teacher, they will delight in them, especially when executed to music.

Avoid all sudden or jerking movements. If the hand or arm is to be carried out from the body horizontally, vertically, or obliquely, let it be done as though carrying a heavy weight as far as possible, stretching every muscle to its utmost tension.

It is a poor excuse for neglecting physical exercises in school, to say, "No time." Time will be gained by practising a few well-arranged, symmetrical exercises. Whenever a recitation languishes on account of inattention or weariness, and pupils become restless, a moment or two spent in judicious physical exercises will change the entire aspect of the room, and pupils will be prepared to apply their minds to study with renewed vigor.

If practicable, rooms should be thoroughly ventilated during these exercises.

Sitting, counting aloud, or singing, should not, as a general thing, be allowed while exercising.

Do not allow pupils to strike upon their chests unless their lungs are fully inflated. It is not safe to practise any physical exercise with very small children, in which they will be required to strike their chests; for they will not and cannot keep their lungs properly inflated.

Teachers should give personal attention and direction to the subject, and not permit exercise in any way but the right one. Have a well-defined object in view, and endeavor to make every movement tend toward that object.

RECREATION.

Part of Wednesday and Friday afternoons, or other more convenient times, may be spent in merely entertaining exercises. The following are suggested, not as a list, but as specimens: —

1. Nursery songs.
2. Games with action; as, King George and his Troops.
3. Games without action; as, Putting in a Word.
4. Stories.
5. Talks.

MISCELLANEOUS.

The half-hour under this head is not intended for work, but for a breathing-time as the children in the primary schools grow older, and need an occasional pause in their lessons. It is also meant to provide the teachers with a few comparatively spare moments in which they can attend to various details.

D.

A PRELIMINARY REPORT BY THE SUB-COMMITTEE APPOINTED BY THE NORFOLK COUNTY CONVENTION OF COMMITTEES AND SUPERINTENDENTS.

NORFOLK COUNTY, MASS., 1878.

REPORT.

INTRODUCTORY.

The desirability of a well-arranged course of study in every system of education is self-evident. In fact, there can scarcely be any system without it.

Acknowledging this truth, your committee first recognized that the great problem that devolved upon them to solve was not to arrange a course that could be easily carried out in those towns where an improved and excellent system is already in operation, and where competent supervision is exercised, but to prepare such a course as will meet the needs of those towns where these aids are wanting, and help to raise our schools to a higher standard.

It was apparent that the course must be prepared with reference to topics only; and that, to secure proper methods of teaching and the desired results, the work as prescribed must be accompanied by suggestions and explanations.

We realized that to attempt too much would defeat the purpose cherished, and lead to the abandonment of the entire course. Moreover, a less rapid advance in the early stages, by affording time for greater thoroughness and more complete mastery of the subjects taught, will accomplish the best results; and the influence will be felt during the remaining years of school-life. If work ever needs to be thorough, it is in the primary departments.

Your committee felt that they would be better prepared to recommend a course of study after they had visited together some of the schools in various towns. Accordingly three days were occupied in visiting the schools of Braintree, Brookline, Quincy, and Weymouth. Several tests were adopted to ascertain the nature of the instruction, and the acquirements of the pupils. These tests were also applied in other towns, by individual members of the committee, or at their request. Special attention was given to the primary grades; as we felt that our proposed course must begin and be efficacious with the lowest department, although having steadily in view the end to be reached.

After a careful consideration of the whole subject, we concluded to prepare, and offer to this convention, only a course for the primary grades, comprising the first three years of school-life. If the directions given are complied with, we believe the work as laid out can be successfully accomplished in all the towns in the county. In many towns much more is attempted. It will be noticed that the study of language occupies an important place; and the directions in this branch are full and specific, as are also the suggestions in regard to the study of number, under the head of arithmetic.

We believe that a definite primary course, as recommended, placed in the hands of the school committees and teachers of our county, will be invaluable. Particularly in towns where no regular supervision is practised, is it desirable that the teachers should have some definite guide, in order that all may be working in harmony and in one direction. But it is one thing to adopt a course of study for the schools, and quite another to see that it is properly conducted and faithfully carried out.

SUPERVISION.

In looking over the field, what appliances do we find for doing this work?

In some towns we find teachers liberally paid, and well qualified. In most towns we find teachers working for small salaries, and generally using false methods. In nearly all towns we find committees unfitted by previous training for effective supervision, or engrossed with other affairs, or both. If a system were to be invented, having for its object the defeat of the end sought for in our schools, it is at least doubtful if a better could be devised.

We may safely assume that a good teacher will keep a good school. As a general rule, high salaries will command the services of good teachers. But high salaries, in most towns, are out of the question. The problem, then, would seem to be, how to secure good teachers for such wages as we can pay.

While we find bad methods in our schools, we also find among the teachers an abundance of good material out of which good teachers may be made. The obvious thing to do, then, is to *make* good teachers out of the material on hand; and, by persistent training, create a supply that shall equal the demand, and at a cost within the reach of all. This work must be done by skilled specialists, whose services may be secured at a comparatively small addition to our present outlay. In other words, good work in our schools must be secured in precisely the same way in which good work is secured in our factories and workshops, — by the constant drill and inspection of skilled master-workmen.

Is the authority of the school-committee likely to be infringed upon by the adoption of this plan? Far from it. The law requires the superintendent to be appointed by the committee, and to be under their direction and control. While, therefore, their authority remains intact, their efficiency is increased tenfold by the addition of an executive force which shall enable them to institute, with reasonable hope of success, those reforms which most committees have long felt to be necessary to the welfare of the schools, but which, from the very magnitude of the work, and perhaps their own conviction of their inability to do it, they have shrunk from undertaking.

CONCENTRATION.

We recommend the concentration of schools, so far as possible, into a few large central buildings, under the charge of head teachers. It may be deemed desirable to place the lower two or three grades in houses somewhat separated from those intended for the older pupils; but a proper concentration of schools will allow the assignment of the work of but one or two years to each teacher, and tend to much better results than can be attained in scattered, mixed schools. When such concentration would leave the homes of some children at a very great distance from school, it will be better for the towns to provide conveyance, at least for the younger children and in inclement weather, than to establish or continue small, outlying, mixed schools.

FURTHER ADVANCE.

We propose at the next meeting to submit a course for the grammar schools. But it seems necessary, before entering upon this work, to ascertain from the several committees represented in the convention the results now accomplished in their respective towns in the principal branches of education at the close of the grammar-school course, or at the expiration of eight years. We can thus better judge what to recommend. While the aim will be towards a higher standard than the average accomplishment, it can be reached only by gradual steps: therefore the course we are arranging must not be regarded as a permanent one, but subject to such changes as progress and improvement will, we trust, not only make possible, but demand. No doubt, in many towns in the county, useful and creditable work can be done, and is now done, in the direct as well as incidental study of form and color, under more specific directions than we have thought it well to give in the course now offered, and in the pursuit of such branches as drawing and music, with aids like the American Text-Books of Art-Education and the National Music-Readers. For the present we content ourselves with presenting a programme and suggestions for work in the more common branches during the first three years of school-life.

We earnestly call upon the school committees of the county to enlist themselves in this work, and thus give a practical bearing and issue to our efforts in convention. We believe these to be efforts in the right direction, and that true and permanent progress will result.

We now invite your attention to the course we have prepared.

MORALS AND MANNERS.

Man is a social being; he will and must live in society. The largest society of earth is the state; and, in order that its members may perform their duty to each other, the state assumes the education of the young to the extent of preparing them to be worthy citizens. The young, as well as those older, are ethical beings; that is, they can and ought to know and do duty: and the more thoroughly they know, and the more scrupulously they perform, duty, the more valuable they will be in making the state a model society.

In order that the child may know and do duty, his reason and conscience must be so developed that they shall control him. The two factors, then, in the child to be developed, are reason and conscience. Co-ordinate with these are two classes of sciences. Those of the first class — as mathematics, geography, history, natural philosophy, &c. — have reference to what is or has been: they are addressed to the reason, are intended to develop it, and also to impart such information as man, who is properly denominated a "being of exchange," needs in the conduct of human affairs. The second class of sciences includes those that have reference to what ought to be, — what an intelligent being ought to do in order to do right, and thereby secure to himself and others his own and their rights.

It will be observed, the sciences of the first class have for their end that the pupil be well-informed, and those of the second that he be well-principled; and that the latter result is by far the most important to the state, to the community, and to the individual himself. Is not this order usually reversed in the public school? Is not actual knowledge — that is, information — put first, and morals and manners afterwards? But good morals and good manners are indispensable to good habits; and these lie at the foundation of success, and every other utility in life.

It is required that morality be taught in school. How then, briefly, can it be done? One way is by teaching the negative virtues, which have been called the superlative virtues. The usefulness of negative precepts is seen in this, that every individual has rights, and the grand object and work of the state is to protect each individual in the enjoyment of those rights. For securing this end, the state employs the public school as a preventive agency, and the prison as a corrective agency. The ever-present law of the schoolroom should be, "Impinge not, but hold sacred, the rights of others." This most important and fundamental law is often broken by the young: hence the need of alertness on the part of the teacher to detect violations of it, and call attention thereto.

But, further, how shall the positive virtues be inculcated? First, the rule, "Do to others as you would have them do to you," should be often and deeply impressed upon the minds of the young. Truthfulness also, which secures to society its greatest blessings, should be taught and required in the public schools; and honesty, the corner-stone of the commercial world, should be enjoined. Thus positive morality can be taught without making the teaching obtrusive or spectacular. A recent work entitled "Behaving" will be found profitable in teaching children the first and fundamental principles of the worthy but neglected science of social address.

LANGUAGE.

Exercises in language are valuable in many respects, and accomplish various results. They may be begun the moment a child enters school; and they can be continued to advantage throughout the entire common-school course. The methods of conducting them in the early stages of school-life must be quite different, however, from those which should be pursued in more advanced periods.

The ends to be attained by this branch of education are most important. First, the child is led to correct habits of thought, the mind is trained to understand what is taught, and the power is developed to reproduce the ideas contained in the lesson. Second, as a consequence, the vocabulary of the child is enlarged, and he is assisted to a correct understanding of language. In the early stages the work must necessarily be to a large extent oral; later, when the pupils acquire the ability to write, the exercises should be chiefly written work. There will then be required not only correct expression and proper arrangement of ideas and thought, but acquaintance with correct customs in punctuation, and such a grasp of language as will enable the pupils to put their thoughts concisely upon paper. Penmanship, spelling, proper use of capitals, and other items, will all be included in the instruction in this department.

It will thus be seen that language is a vital part of a scheme of education. To render it of still greater practical utility, the subjects used for instruction in it should be such as will impart valuable information, and assist in developing the pupil's powers of observation. Thus will be accomplished, not only the results before mentioned, of enlarging the vocabulary, training the faculty of expression, but the mind will be stored with useful knowledge, and its facility in acquisition increased. The study of natural science can be taught incidentally in this way, quite effectively, and with much pleasure.

During the first year in the primary classes, the children should be able to write simple words upon their slates, and very short sentences about the cat, dog, &c. The teacher should relate some story or anecdote, and call upon the pupils to repeat it in their own language, using care to correct all improper modes of expression. Once a week at least the teacher should give instruction to the pupils in outlines of botany, taking up flowers, — their structure, form, color, — buds, leaves, seeds, growth of plants, circulation of sap in them. All should be taught with natural objects, and the pupil then be required to explain the subject as unfolded by the teacher.

During the second year, the pupils should be able to write easy sentences of from six to ten words, from dictation by the teacher. The teacher should examine carefully the work upon the slates of each pupil, and no error should pass without correction. Copies of some of the work should be put upon the blackboard, and the mistakes pointed out, care being taken to present often to the school the correct forms. We recommend a constant use of the blackboard in connection with this exercise. This year, or earlier, the incidental instruction in natural science may be changed, especially at seasons unfavorable to the study of plant-life, so as to include the following subjects: the use of the senses, limbs of animals and their uses, what instruments animals possess for attack and defence, clothing and intelligence of animals, wherein man is superior. It is essential that the teacher should be prepared in advance for each lesson, and it should be conducted in such a way as to secure the attention and interest of the pupils. As in the first year, the pupils at the close of the instruction should be called upon to repeat what has been said. The teacher should impress upon the pupils to distinguish between the important facts and ideas, and those which are subordinate. The same care should be used to secure correct expression, and also a proper order of ideas as distinguished from that confused arrangement which is so apt to prevail.

At the close of the third year, pupils may use pen and ink, and should be able to copy sentences from their readers. The teacher may begin the language exercise by relating some simple story or anecdote, and, after carefully explaining it to the pupils, allow them to reproduce the story in writing and in their own words. Each written exercise should be carefully corrected by the teacher, and returned to the pupils. Errors should be pointed out by the teacher, and explained. At the end of the year, pupils should be able to write legibly and spell correctly simple sentences, using correctly capital letters, periods, and interrogation-marks. They should also be able to reproduce with tolerable correctness of expression a short story, of from twelve to twenty lines, upon any subject adapted to their age and understanding. To conduct this exercise properly, and to secure the greatest success in it, considerable time will be required. A portion of the time allotted to the regular writing exercise may be transferred to this. For this year the course in natural science may include the following additional topics: elements of physical nature, air, wind, uses of water, water in the air, clouds, snow, heat and cold. The instruction and recitation in this branch should be oral.

There should be a definite plan from the lowest to the highest class, and the pupils should be advanced by successive steps. The subject should be pursued systematically; the topics selected should have a definite aim; and, in place of the senseless and absurd stories that are so frequently told to children, the teacher should make such a selection as will combine instruction with entertainment. An acquaintance with the habits and uses of animals, the order and beauty of plant-life, the laws and operations of nature, important events and characters in history, may be gained by means of this exercise. A wise teacher will also seek to guide the young minds so that principles of honor and of virtue may be implanted. Honesty, truthfulness, and benevolence should be encouraged.

We recommend, in view of the great importance of this branch of study, and of much that may be taught in its pursuit on the plan suggested, that sufficient time be allotted to it in carrying out the course of study offered, even if it be found necessary to reduce time in the other departments of study. It may well be borne in mind, that, with the knowledge of language thus acquired, less time will be needed afterward for the study of grammar, and the pursuit of other lines of study will be rendered much easier.

FIRST YEAR — FIRST HALF.

	Steps.	Incidentals and Directions.	Suggestions and References.
TALKING.	*a.* Ascertain each child's range of ideas, and forms of expression. *b.* Begin to correct wrong forms of expression.	*a* 1. **Gain each child's confidence.** Lead pupils to feel at home in the schoolroom. *a* 2. Talks about familiar things. *a* 3. Present familiar objects, pictures, crayon-sketches on blackboard. Lead pupils to talk about them, to ask and answer questions. *a* 4. Tell stories, and lead pupils to tell what they remember. Show pictures, and lead pupils to tell stories about them. *a* 5. Talks about all the objects in schoolroom. *b* 1. Begin to change incorrect forms of language, very carefully, so that the children's freedom in talking will not be repressed.	R. Thought and Expression, Part I., Munroe's Chart and Chart Primer, Appleton's First Reader, Model First Reader, Harvey's First Reader, Sheldon's Primer, Franklin First Reader, How to Teach, Calkins's New Primary Object Lessons. S. 1. Make a thorough study, by careful observation and reading, of how a child learns to talk. S. 2. The child's range of ideas, their relations and combinations, is the foundation for all upbuilding in language. Before any satisfactory examination in this direction can be made, the child's confidence must be gained.
READING.	*c.* Vocabulary of First Reader taught on blackboard.	*c* 1. Use script alone in teaching reading. *c* 2. Associate words with familiar ideas, using objects, blackboard sketches, pictures, and stories, in order to make the ideas **vivid** in the acts of association. *c* 3. Repeat these acts of association until the words taught recall instantly, in any sentence, the ideas of which they are signs. *c* 4. Teach single words, phrases, and sentences. Adjectives, prepositions, conjunctions, &c., should be taught in phrases and sentences, and not alone. *c* 5. Pupils must never be allowed to try to read a sentence aloud until the thought it expresses is in their minds.	S. 3. The child should be taught to read by the same methods by which it learned to talk. The main thing is, that the acts of association of ideas and words be made effective. S. 4. Pupils should remain unconscious of the **parts** of a word until at least one hundred words have been taught. S. 5. The words should be arranged for teaching in phonetic order, under the different vowel sounds; for example, *ă, ĕ, ĭ, ŏ, ŭ, û, ā, ē, ī, ō, ū, ä, â, ô, oi, ou.* Words may be taught, however, not in this order.

WRITING & SPELLING.	*d*. Copy from blackboard, on slate or blackboard, every word, phrase, and sentence taught. *e*. Train pupils to make the letter *i* on slate and blackboard.	*d* 1. Use capitals and periods in writing. *e* 1. Pupils should be trained to make the letter *i* exactly as it is made in the commonly-used copy-books. NOTE.—Teachers should learn to write well on the blackboard.	S. 6. No matter how awkwardly the child begins to copy, notice and encourage every effort. S. 7. Pupils should read all that they write upon their slates. S. 8. The straight slanting line is found in every small letter except *e*, *o*, *c*, and *s*; in *i* it is found in its simplest form. This letter should be mastered before a single step in advance is taken.

FIRST YEAR — SECOND HALF.

TALKING.	See *a* and *b*. NOTE.—These references are made to avoid repetition. Teachers should study, and follow in teaching, **all** that is found under the headings referred to.		S. 9. In correcting wrong forms of language, occasions for right expression should be given by the presentation of objects. For example, if a child says "The books *is*," more than one of different objects should be shown, and the child led to talk about them. S. 10. Every word that the child does not know at sight should be taught on blackboard.
READING.	See *c*. *f*. Change from script to print. *g*. Vocabulary of First Reader in charts and reading-books.	*f* 1. In changing from script to print, let the teacher print sentences on blackboard that have been read, and, **without calling attention to the difference,** request pupils to read. *f* 2. Use charts before taking reading-book.	NOTE.—Teachers should not attempt to teach phonic elements unless they can pronounce slowly (spell by sound), with great skill.
WRITING & SPELLING.	See *d* and *e*. *h*. The letter *u*.	*e* 1. NOTE.—Slates should be ruled for writing.	

SECOND YEAR — FIRST HALF.

	Steps.	Incidentals and Directions.	Suggestions and References.
TALKING. Expression of thought with the pencil.	See *a* and *b*. *i.* Write sentences about objects, using those words only that pupils have learned to read and spell. Use capitals, period, and apostrophe.	*i* 1. The whole vocabulary that has been acquired in reading should be used in expressing thought with the pencil.	R. Harvey's Language Lessons, Appleton's Language Lessons, Greene's Language Blanks.
READING.	See *c*, *f*, *g*. *j.* Complete First Reader vocabulary.	*c* 5. Note. —**Wait** for the pupils to get the thought before you require expression.	Note. — Read four or five different first readers, if they can be obtained.
WRITING.	See *d*, *e*, and *h*. *k.* Letters *w*, *x*, *v*, *O*, *E*.		
SPELLING.	*l.* Write, without copy, all words that have been copied.	*l* 1. **Never allow a child to write a word incorrectly, if possible.**	S. 11. Dictate sentences for writing that have been previously copied.

SECOND YEAR — SECOND HALF.

TALKING. Expression of thought with the pencil.	See *a*, *b*, and *i*.		S. 12. Use animals, pictures of animals, plants, to stimulate thought in writing. Every lesson given should be a language lesson.
READING.	See *c*, *f*, *g*, *j*. *m.* Begin Second Reader vocabulary.	*m* 1. Teach every new word on blackboard.	S. 13. Pupils should make sentences using new words.
WRITING.	See *d*, *e*, *h*, and *k*. *n.* Letters *n*, *m*, *t*, *l*, *b*, *h*, *k*, *C*, *D*.	*n* 1. All letters taught should be combined, in spelling words that the child knows. *n* 2. No careless work should ever be permitted.	Note. — The names of letters are to be taught when they are thus written.
SPELLING.	See *d*, *e*, *l*.	*l* 1.	

THIRD YEAR — FIRST HALF.

COMPOSITION.	See *a*, *b*, *i*. *o*. Writing short stories, descriptions of objects. Describe movements made by teacher.	*o* 1. All that pupils compose to be carefully criticised. Teach the parts of sentences by suggestion. Read and tell short stories, and require pupils to write all they remember.	S. 14. Great care should be taken to have pupils use correct language. Corrected forms of speech should be repeatedly written on slates.
READING.	See *c*, *f*, *g*, *j*, *m*. *p*. Complete Second Reader vocabulary.	*p* 1. Copy paragraphs from reader, taking care that capitals and punctuation marks are properly used.	S. 15. Every sentence should be known before pupils make any attempt to read it aloud.
WRITING.	See *d*, *e*, *h*, *k*. *q*. Letters *p*, *f*, *e*, *o*, *c*, *a*, *d*, *q*, *j*, *g*, *y*, *r*, *s*, *z*; *A*, *N*, *M*, *T*, *F*, *P*, *R*, *B*, *K*, *L*, *S*, *G*, *I*, *J*.	*q* 1. In writing capitals, *O* and the capital stem are the main principles to be taught.	
SPELLING.	See *d*, *e*, *l*. *r*. Spell every new word learned.	*r*. Begin to spell orally.	

THIRD YEAR — SECOND HALF.

COMPOSITION.	See *a*, *b*, *i*, *o*.	*o* 2. Teach composition by writing descriptions of animals and plants. Copy from dictation.	S. 16. Classes of animals and plants may be taught.
READING.	See *c*, *f*, *g*, *j*, *m*, *p*. *s*. Begin Third Reader vocabulary.		S. 17. Do not begin Third Reader vocabulary until the Second Reader vocabulary has been mastered.
WRITING.	See *d*, *e*, *h*, *k*, *q*. *t*. *V*, *X*, *U*, *W*, *Y*, *Z*, *Q*.	*t* 1. Begin pen movement.	
SPELLING.	See *d*, *e*, *l*, *r*.		

ARITHMETIC.

The following are presented as examples of a natural development of number. It should be borne in mind that all development should be by the use of objects preceding word-statement or even questions: the thing and operation, afterwards the name and narration. Vertical lines are here used as representatives of any objects that may be employed in the schoolroom. The mark + indicates merely the movement of the object or objects on the right *to* the objects on the left of it, and the mark · the movement of the object or objects on the right of it *away from* the objects on the left of it. Of course the language for operations in number should not be stereotyped, and the operations themselves should be presented promiscuously as well as in regular order of development.

THE NUMBER THREE.

THE NUMBER, — | | |.

COMBINING AND SEPARATING.

(*a*) Using |.

<table>
<tr><th><i>Objects.</i></th><th><i>Language.</i></th></tr>
<tr><td>| + | + |</td><td>Three ones are three.</td></tr>
<tr><td>| | |</td><td>Once three is three.</td></tr>
<tr><td>| | |</td><td>There is one three in three.</td></tr>
<tr><td>| · | · |</td><td>There are three ones in three.</td></tr>
</table>

(*b*) Using | and | |.

<table>
<tr><td>| | + |</td><td>Two and one are three.</td></tr>
<tr><td>| + | |</td><td>One and two are three.</td></tr>
<tr><td>| | · |</td><td>Three less one is two.</td></tr>
<tr><td>| · | |</td><td>Three less two is one.</td></tr>
<tr><td>| · | |</td><td>There is one two in three, and one over.</td></tr>
</table>

COMPARISON.

| | | is | more than | |.
| | | is | | more than |.
| | is | less than | | |.
| is | | less than | | |.

EXAMPLES FOR RAPID SOLUTION.

How many ones in | | | less | less | and | | more?

| and | and |, take away | |, add | and |, take | | away, add | and |, — how many now?

PROBLEMS.

How many cents must you have to buy a three-cent apple?

Pussy had three kittens. One ran away. How many staid at home?

If one little girl can ride in one cart, how many little girls can ride in three carts just like it?

Fred and Grace found three violets under the pine-tree. How could they share them?

THE NUMBER FOUR.

THE NUMBER, — | | | |.

COMBINING AND SEPARATING.

(*a*) Using |.

<table>
<tr><th>Objects.</th><th>Language.</th></tr>
<tr><td>| + | + | + |</td><td>Four ones are four.</td></tr>
<tr><td>| | | |</td><td>Once four is four.</td></tr>
<tr><td>| | | |</td><td>There is one four in four.</td></tr>
<tr><td>| · | · | · |</td><td>There are four ones in four.</td></tr>
</table>

(*b*) Using | and | | |.

<table>
<tr><th></th><th></th></tr>
<tr><td>| | | + |</td><td>Three and one are four.</td></tr>
<tr><td>| + | | |</td><td>One and three are four.</td></tr>
<tr><td>| | | · |</td><td>Four less one is three.</td></tr>
<tr><td>| · | | |</td><td>Four less three is one.</td></tr>
<tr><td>| · | | |</td><td>There is one three in four, and one over.</td></tr>
</table>

(*c*) Using | |.

Objects.	*Language.*
| | + | |	Two and two are four.
| | + | |	Two twos are four.
| | · | |	Four less two is two.
| | · | |	There are two twos in four.

COMPARISON.

| | | | is | more than | | |.
| | | | is | | more than | |.
| | | | is | | | more than |.
| | | is | less than | | | |.
| | is | | less than | | | |.
| is | | | less than | | | |.

EXAMPLES FOR RAPID SOLUTION.

Once two twos, less three, two more, — all taken once, and one added, two taken away; what is twice the number left?

Four less one, less another one, two ones added, three taken away; how many less than four have you left?

PROBLEMS.

John, James, Kate, and Lucy are standing in their class. How many children are standing in the class?

Boys, you may take your seats. How many children are standing in the class now?

The same class may all stand. John, stamp with your right foot once for every scholar in the class except yourself. How many times must he stamp, Kate?

Lucy, if James gave you four rings, and you put just as many of them on one little finger as on the other, how many rings would you have on each little finger?

THE NUMBER FIVE.

THE NUMBER, — | | | | | .

COMBINING AND SEPARATING.

(*a*) Using | .

Objects.	*Language.*
| + | + | + | + |	Five ones are five.
| | | | |	Once five is five.
| | | | |	There is one five in five.
| · | · | · | · |	There are five ones in five.

(*b*) Using | and | | | | .

| | | | + |	Four and one are five.
| + | | | |	One and four are five.
| | | | · |	Five less one is four.
| · | | | |	Five less four is one.
| · | | | |	There is one four in five, and one over.

(*c*) Using | and | | .

| | + | | + |	Two and two and one are five.
| | + | | + |	Two twos and one are five.
| · | | · | |	Five less two less two is one.
| · | | · | |	There are two twos in five, and one over.

(*d*) Using | | | and | | .

| | | + | |	Three and two are five.
| | + | | |	Two and three are five.
| | | · | |	Five less two is three.
| | · | | |	Five less three is two.
| | · | | |	There is one three in five, and two over.

COMPARISON.

| | | | | is | more than | | | | .
| | | | | is | | more than | | | .
| | | | | is | | | more than | | .
| | | | | is | | | | more than | .
| | | | is | less than | | | | | .
| | | is | | less than | | | | | .
| | is | | | less than | | | | | .
| is | | | | less than | | | | | .

EXAMPLES FOR RAPID SOLUTION.

| | | | | less | | less | | |, | | more, | less; how many will twice as many be?

| | × | | + | − | | | × | × | | − | | | + | | | | —?

PROBLEMS.

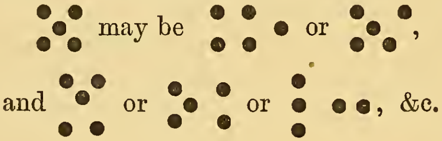
Are your arms and my arms five arms?

How many arms less than five arms are your arms?

I have five horses. How many spans can I make from them? (Explain "span," if the children do not understand you.)

Extensions of these exercises will readily suggest themselves. Care should be taken to arrange in various relative positions the objects used.

| | | | | separated may appear as, | | | | · | or | | | | |, and



Each number should become familiar in all the different forms it may assume under analysis.

| | | | | |	
| + | + | + | + | + |	| | | + | | + |
| | + | + | + | + |	| | | + | | |
| | + | | + | + |	| | | | + | + |
| | + | | + | |	| | | | + | |
| | | + | + | + |	| | | | | + |

In counting, count thus: —

| | | | | | | | | | | | | | |·
one two three four five.

| | | | | | | | | | | | | | |·
five four three two one.

Do not count thus : —

| | | | |
one two three four five.

In the earliest stages of composing a number, | + | + | ? e.g., may be read as "One and one and one, how many?"

LIST OF REFERENCE-BOOKS IN ARITHMETIC.

Grant's Arithmetic for Little Children, Parts I. and II.
Beebe's First Steps among Figures.
McVicar's Hand-Book of Arithmetic.
Small's Number Cards (Aids, after Grube).
White's Manual of Arithmetic.
Indianapolis Manual.
How to Teach.
Primary Teacher.
Calkins's New Primary Object Lessons.
Primary Arithmetics, such as Milnes's, Olney's, McVicar's, French's.

FIRST YEAR — FIRST HALF.

<table>
<tr><th>ESSENTIALS.</th><th>INCIDENTALS.</th><th>SUGGESTIONS.</th></tr>
<tr><td>Develop the numbers
1, 2, 3, 4.</td><td>Add, multiply, subtract, and divide, but make no combination greater than 4.
Treat addition and multiplication as kindred forms of combination; subtraction and division, of separation. "Times" and "is contained in," as well as "add," "subtract," "multiply," "divide," are terms to be used only after the ideas of number have been well developed.
Teach number, not figures.
Teach only with objects. Count only by object.
Let both teacher and pupil perform with objects all the operations upon each number, and state clearly what each sees the other do. The language for the number must be perfect, else the idea of the number will be defective.
The number, and all combinations and separations used, are to be known at sight. Allow no counting up to combine, e.g., | | and | |.
Train sight, hearing, and touch, to be quick and accurate.</td><td>Teach but one number at a time. Make no combination greater than the number being taught. Let the pupil master all the combinations within that limit, and all the separations that can be made with that number and lower numbers before passing to the next higher.
Proceed very slowly. Give much time to those pupils who do not learn number readily.
Allow no hesitation. Require pupils to tell instantly what they see when shown objects, and let them take objects and make combinations and separations, and tell, at the same time, what they are doing, or what their comrades do.
Pass no error. Fix the truth at once by repeating the work with objects.
Use as aids, numeral frames, dots, lines, geometrical forms, blocks, splints, pebbles, beans, corn, nuts, fingers, things and parts of things in the schoolroom, parts of animals, of vehicles, — things that go, or grow, or otherwise interest the child-mind, — actions, such as walking, clapping, stamping, &c. Except in review-problems the objects should always be actually present to the senses.</td></tr>
</table>

FIRST YEAR — SECOND HALF.

Essentials.	Incidentals.	Suggestions.
Develop the numbers **1 to 10,** **as before.** **Then write in words and in figures with the signs.**	**Continue previous work.** Count, with objects, by ones, twos, &c., and then lead the pupil to say, as expression of his idea, two twos are four, three twos are six. These facts must all be first made familiar by use of objects. The writing, on slate and blackboard, of the nine digits and the cipher, is to be taught very carefully, one figure at a time, and in this order:— **1, 4, 7, 0, 6, 9, 5, 2, 3, 8.** Have all work in good figures, and neatly arranged. The numbers 1 to 10 are to be developed with objects only, without the least use of written signs or abstract numbers. If number to 10 has not been thus learned thoroughly before the end of this year, postpone the use of figures to the next year. If slate exercises are used, let them be in marks, not figures, until number to 10 is well developed. When pupils pass to use of figures, continue to use objects, and associate with the figures the ideas of number as already developed.	Use no combination greater than 10. First fix in the pupil's mind, by the **actual use of objects,** distinct, easily recalled ideas of number. Then practise forming combinations and separations rapidly. Then give for solution simple problems in concrete (applied) number. Roman numerals may be taught in regular order to X, after the Arabic figures are learned. Do not use statements, or even questions, when showing objects would better call them out from the pupil. Do not prompt the pupil by questions that half contain the answer. Aim here and always in arithmetic at two results, — the development of the **reasoning powers,** and the habit of **rapid** and **accurate calculation.**

SECOND YEAR — FIRST HALF.

Essentials.	Incidentals.	Suggestions.
Develop the numbers 1 to 20, as before. **Write these numbers in words, and in Arabic and Roman characters.**	**Make frequent reviews of previous work.** Use Grube's tables of 10 for part of the review work. Develop each number **orally first, with objects;** then repeat with written work. Let combinations and separations be read at sight; 6, for example, being **instantly recognized** in its forms, | | | | + | |, two threes, 5 + 1, 2 × 3, 12 ÷ 2, 8 — 2. Addition, multiplication, subtraction, and division tables are to be thoroughly learned as far as each number developed, after developing the number. **They are only for review work.** They are to be learned both promiscuously and in regular order, and will thus be mastered, gradually but completely, up to the combination 12 × 12, at least. Practise rapid addition of all numbers that make the number being developed, or less. Give a large number of interesting and natural examples in applied number. Have the problems solved with objects.	Let the teacher perform the four operations **with objects,** and the pupils represent them in figures on slate and blackboard; then the teacher write figures, and the pupils **show** the corresponding numbers and operations. Have class exercises, and exercises between members of the class. Few pupils can recognize at sight a group of more than ten objects, but combinations making number to twenty can be recognized. Add rapidly numbers expressed in columns of figures, thus: six, ten, thirteen, fifteen; or, five, nine, ten, fifteen. 2 3 4 1 5 — Begin with **short columns** and **small figures,** and **advance slowly,** but **require promptness.** Only concrete examples that come **within easy range** of the child's imagination should be used. **Do not hasten to complete the assignment.** Make each step sure before you venture another.

SECOND YEAR — SECOND HALF.

ESSENTIALS.	INCIDENTALS.	SUGGESTIONS.
Operate in addition, subtraction, multiplication, and division up to 50. **Represent, as before, all numbers to 50.** **Use of money, weights, and measures.**	Review, and do **not advance** until pupils **are ready** to do so. Use Grube's tables of 10 and of 20 for part of the review work. Above 20, objects can be used to advantage only to group parts of numbers; 35, e.g., may be grouped in three rows of 10 dots each, and one of 5 dots. Require solution of problems involving only **small figures** but **some reasoning,** and obtain correct statement of processes in complete sentences uttered intelligibly. Avoid set forms of phrasing: cultivate independent and varied expression. Teach writing of numbers with care. Continue to learn, as review, tables of the four operations to 50 in each. Use objects entirely in teaching money, judging distance, estimating weight. Show meter, liter, and gram.	Pupils should be encouraged to make up examples, and give them to the class. Pupils should be trained to solve problems habitually by a direct perception of their conditions, and not after a pattern or rule. Reading of combinations and separations at sight, and solution of many small-figured examples in concrete numbers, should be continued **throughout the course.** Up to this time, at least, the four operations should be treated as practically but two, — multiplication as a form of addition, and division as a form of subtraction. Teach the use of the cipher; as, $1 - 1 = 0$, $0 + 0$, $0 - 0$, 0×1, 0×5, 5×0, $0 \div 5$. Very little time is needed in teaching Roman numerals. Pupils should make them on slate and blackboard; have exercises in recognizing them at sight on blackboard, and drills in finding chapters.

THIRD YEAR — FIRST HALF.

ESSENTIALS.	INCIDENTALS.	SUGGESTIONS.
	Test results of all previous work.	Invent manifold ways of testing results thoroughly.
	Continue object work in money, weights, and measures, metric as well as English. Do with these what you can do well.	Lead pupils to discover every fact for themselves by skilful manipulation of objects, and by dexterous questioning.
The four operations to 100.	Continue to learn the usual tables in review of number developed and used.	For developing number above 50 this order is suggested:— Combine — Three numbers, then four, five, &c., of one place each; as, 1 + 2 + 1, 4 + 3 + 1.
	Review with Grube's tables of 20.	
Numeration and notation to 100.	Represent numbers as began to do in first half of second year.	Two numbers, not both of two places at first; as, 15 + 4, 17 + 6; then, 12 + 13, 23 + 16. Afterwards, three, four, five numbers, or more.
Halves, fourths, sixths, eighths, tenths.	Teach rapid calculation.	Numbers of three places, on same plan.
	Limit multipliers and divisors to one figure.	Separate — Number of two places, the part removed to be of one place only, and, at first, less than the unit figure of the minuend: as, 14 — 4, 68 — 6; then, 16 — 8, 56 — 9.
	Teach numeration and notation with objects. Be sure that the value expressed by figures, according to place, is understood. Teach tenths as well as tens, but objectively first.	Number of two places in both minuend and subtrahend, both figures of latter less than those in same places in minuend; then unit figure in subtrahend greater.
	Use only objects in teaching fractions, — no figures yet.	Same with number of three places. Use combinations and separations in the same example as soon as can safely.

THIRD YEAR — SECOND HALF.

Essentials.	Incidentals.	Suggestions.
The four operations to 1,000. **Thirds, fifths, sevenths, ninths, tenths.** **Change fractions already learned without altering their value.**	Continue previous work, giving a large number of examples involving **all that has been already taught.** Continue use of money, weights, and measures. Accustom pupils to sight and use of metric as well as English units of length and weight. Limit multipliers to two figures, and divisors to one figure. **Oral** work must continue to occupy at least as much attention as written work. Change halves to fourths, sixths, eighths, tenths; thirds to sixths, ninths; fourths to eighths; fifths to tenths: also the reverse. **Objective teaching** should take at least one-half of the time given to arithmetic **throughout the course.** The order of procedure should be: objects seen, facts stated, principles discovered and applied, rather than rule memorized, pattern imitated.	Increase the size of multipliers very slowly. Impress the value of the tens figure by object-work, by using the same figure as in the unit place, by inserting the unit figure (0) in the product by the tens, by using the addition form of multiplication, and in other ways. If pupils are led to discover for themselves every fact, process, definition, and principle, and to state what they discover, each lesson in arithmetic will be also a lesson in language; and that which the pupil has expressed for himself has become a part of his mental resources. Take time for this from the beginning, in order to save time afterwards, and to develop in the pupil that mental power which he can gain only by making facts his own by experience. Secure rapidity and accuracy of calculation, and, with the aid of objective representation, train the pupils to **bring their minds to bear energetically upon the working out of problems** adapted to their capacity. Pupils should explain, show, illustrate to the teacher, rather than the teacher explain to them, and so prevent them from discovering what they ought to discover for themselves. **What we do for a pupil is measured by what he can do for himself.** What one can do, one knows.

CONCLUSION.

We have one suggestion to offer, the necessity for which is made apparent in the course itself. A proper grading of the schools is essential to the success of any system in education. Promotion should be made to depend not upon the number of months the pupil has remained in a class, but upon his proficiency and progress. This proficiency may be ascertained in the primary classes by the results of the daily work, and by their ability to stand the tests suggested in the course. We admit there are pupils in every class whose natural abilities are so poor that some indulgence must be granted; but such are the exceptions, and do not contradict the principle that promotions from class to class should be governed by fitness for the advance.

Respectfully submitted.

W. H. LINCOLN,
J. MASON EVERETT,
J. P. BIXBY,
F. W. PARKER,
WM. G. NOWELL,
Committee.

E.

SCHOOL LAWS.

(PASSED SINCE 1875.)

SCHOOL LAWS.

(*Passed since 1875.*)

CHAPTER 3. — AN ACT authorizing the teaching of Sewing in the Public Schools.

Be it enacted, &c., as follows:

SECTION 1. Sewing shall be taught, in any city or town, in all the public schools in which the school committee of such city or town deem it expedient.

SECT. 2. The action of the school committee of any city or town, in causing sewing to be taught in the public schools thereof, is ratified, confirmed, and made valid, to the same extent as if this act had passed prior to such teaching.

SECT. 3. This act shall take effect upon its passage. [*Approved Feb. 1, 1876.*

CHAPTER 47. — AN ACT in relation to Text-books in Public Schools.

Be it enacted, &c., as follows:

SECTION 1. The school committee shall direct what books shall be used in the public schools, and shall prescribe, as far as is practicable, a course of studies and exercises to be pursued in said schools.

SECT. 2. In any town or city in this Commonwealth, a change may be made in the school-books used in the public schools by a vote of two-thirds of the whole school committee thereof, at a meeting of said committee; notice of such intended change having been given at a previous meeting of said committee.

SECT. 3. If any change is made, as provided for in the second section of this act, each pupil then belonging to the public schools, and requiring the substituted book, shall be furnished with the same by the school committee, at the expense of said town or city.

SECT. 4. Section twenty-eight of chapter thirty-eight of the General Statutes, chapter one hundred and twenty-six of the acts of eighteen hundred and sixty-three, chapter one hundred and fifty-five of the acts of eighteen hundred and sixty-seven, and chapter two hundred and ninety-two of the acts of eighteen hundred and seventy-three, are hereby repealed.

SECT. 5. This act shall take effect upon its passage. [*Approved March 14, 1876.*

CHAPTER 186. — AN ACT in addition to an Act in relation to Text-books in the Public Schools.

Be it enacted, &c., as follows:

SECTION 1. Section twenty-six of chapter thirty-eight of the General Statutes is amended so as to read as follows: The school committee in each city or town where there is no superintendent of schools, or some one or more of them, for the purpose of organizing and making a careful examination of the schools, and of ascertaining that the scholars are properly supplied with books, shall visit all the public schools in the town on some day during the first week after the opening of such schools, and also on some day during the two weeks preceding the close of the same, and shall also for the same purposes visit, without giving previous notice thereof to the instructors, all the public schools in the town once in each month; and they shall, at such examinations, inquire into the regulation and discipline of the schools, and the habits and proficiency of the scholars.

SECT. 2. Section seven of chapter forty-one of the General Statutes is amended, so that children, without limitation as to age, may attend school in cities and towns other than those in which their parents or guardians reside.

SECT. 3. This act shall take effect upon its passage. [*Approved April 26, 1876.*

CHAPTER 52. — AN ACT relating to the Employment of Children, and Regulations respecting them.

Be it enacted, &c., as follows: —

SECTION 1. No child under the age of ten years shall be employed in any manufacturing, mechanical or mercantile establishment in this Commonwealth; and any parent or guardian who permits such employment shall for such offence forfeit a sum of not less than twenty nor more than fifty dollars, for the use of the public schools of the city or town.

SECT. 2. No child under the age of fourteen years shall be so employed unless during the year next preceding said employment he has attended some public or private day-school, under teachers approved by the school committee of the place where such school is kept, at least twenty weeks; which time may be divided into two terms, each of ten consecutive weeks, so far as the arrangements of school-terms will allow; nor shall such employment continue unless such child shall attend school as herein provided, in each and every year; and no child shall be so employed who does not present a certificate made by, or under the direction of, said school committee, of his compliance with the requirements of this act; provided, however, that a regular attendance, during the continuance of such employment, in any school known as a half-time day-school, or an attendance in any public or private day-school, twenty weeks as above stated, may be accepted by said school committee as a substitute for the attendance herein required.

SECT. 3. Every owner, superintendent, or overseer in any establishment above named, who employs, or permits to be employed, any child in violation of the second section of this Act, and every parent or guardian who permits such employment, shall for such offence forfeit a sum of not less than twenty nor more than fifty dollars, for the use of the public schools of such city or town.

SECT. 4. The truant-officers shall, at least once in every school-term, and as often as the school committee require, visit the establishments described by this act in their respective cities and towns, and inquire into the situation of the children employed therein, ascertain whether the provisions of this Act are duly observed, and report all violations to the school committee.

SECT. 5. All acts and parts of acts inconsistent with the provisions of this Act are hereby repealed. [*Approved March 16, 1876.*

CHAPTER 24. — AN ACT to amend an Act in relation to Text-books in the Public Schools.

Be it enacted, &c., as follows: —

SECTION 1. Chapter forty-seven of the Acts of the year eighteen hundred and seventy-six is hereby amended in the third section by adding thereto the words "on giving up a copy of the superseded book in condition fit to be used."

SECT. 2. This Act shall take effect upon its passage. [*Approved Feb. 21, 1877.*

CHAPTER 23. — AN ACT to authorize Cities and Towns to furnish pupils in the Public Schools with Stationery.

Be it enacted, &c., as follows:

SECTION 1. Section one of chapter one hundred and six of the acts of the year eighteen hundred and seventy-three is hereby amended by inserting after the word "text-books," where the same first occurs in said section, the words "and stationery."

SECT. 2. This act shall take effect upon its passage. [*Approved Feb. 28, 1878.*

CHAPTER 171. — AN ACT in relation to the approval of Private Schools by School Committees.

Be it enacted, &c., as follows:

SECTION 1. For the purposes designated in section one of chapter two hundred seventy-nine of the acts of the year eighteen hundred and seventy-three, and in section two of chapter fifty-two of the acts of the year eighteen hundred and seventy-six, school committees shall approve private schools in their respective localities only when satisfactory evidence is afforded them that the teaching in such schools corresponds in thoroughness and efficiency to the teaching in the public schools, and that the progress made by the pupils in studies required by law is equal to the progress made during the same time in the public schools; and such teaching shall be in the English language.

SECT. 2. This act shall take effect upon its passage. [*Approved April 23, 1878.*

CHAPTER 217. — AN ACT in addition to an "Act concerning the Care and Education of Neglected Children."

Be it enacted, &c., as follows:

SECTION 1. It shall be the duty of every city and town in this Commonwealth of five thousand inhabitants or more, to take action under the first section of chapter two hundred and eighty-three of the acts of the year eighteen hundred and sixty-six, concerning the care and education of neglected children.

Sect. 2. The officers and duly appointed agents of the Massachusetts Children's Protective Society, in addition to the persons appointed under the second section of said chapter, are hereby authorized to make complaints in case of violations of the ordinances or by-laws therein referred to. [*Approved May 3, 1878.*

Chapter 234. — An Act relating to the distribution of the Annual Income of the School Fund, and to provide for Reports by School Committees.

Be it enacted, &c., as follows:

Section 1. Section one of chapter one hundred and forty-two of the acts of the year eighteen hundred and sixty-five is hereby amended by inserting after the words "and of any amendments to either of said sections," the words "and the laws of the Commonwealth relating to truancy:" *provided, however,* that this act shall not affect the apportionment and distribution of the annual income of the school fund prior to the year eighteen hundred and eighty.

Sect. 2. It shall be the duty of the various school committees annually to report to the secretary of the Board of Education, whether their respective cities and towns have made the provisions and arrangements relating to truants and absentees required by law. [*Approved May 10, 1878.*

Chapter 257. — An Act in addition to an "Act relating to the Employment of Children, and Regulations respecting them."

Be it enacted, &c., as follows:

Section 1. Every owner, superintendent or overseer of any manufacturing, mechanical or mercantile establishment in this Commonwealth shall require and keep on file a certificate of the age and place of birth of every minor child under the age of sixteen years in his employ, or in the employ of such establishment, so long as such minor shall be so employed; which certificate shall also state, in the case of a minor under the age of fourteen years, the amount of his or her school attendance during the year next preceding such employment. Said certificate shall be made by or under the direction of the school committee of the place where such attendance has been had, or where such establishment is located.

Sect. 2. In case no such certificate shall have been required by such owner, superintendent or overseer, then such employment shall be deemed to have been a violation of the second section of chapter fifty-two of the acts of the year eighteen hundred and seventy-six.

Sect. 3. The truant officers may demand the names of the minor children under the age of sixteen years employed in the establishments above named in their several cities and towns, and may require that the certificates of age and, school attendance prescribed in this act shall be produced for their inspection; and, if the name and certificate as aforesaid be not produced in any case, it shall be *prima facie* evidence that the employment of such child is illegal.

Sect. 4. On and after the first day of May, eighteen hundred and eighty, no child under fourteen years of age shall be employed in any manufacturing, mechanical or mercantile establishment, while the public schools in the city or town where such child lives are in session, unless such child can read and write. Every owner, superintendent or overseer in any establishment above named, who employs, or permits to be employed, any child in violation of this section, and every parent or guardian who permits such employment, shall for every such offence forfeit a sum of not less than twenty nor more than fifty dollars for the use of the public schools of such city or town.

SECT. 5. Section two of chapter fifty-two of the acts of the year eighteen hundred and seventy-six is hereby amended by inserting after the word "employed," in the second line, the words "except during the vacations of the public schools." [*Approved May 15, 1878.*

AN ABSTRACT

OF THE SCHOOL RETURNS MADE BY THE SCHOOL COMMITTEES OF THE SEVERAL TOWNS AND CITIES IN THE COMMONWEALTH, FOR THE SCHOOL-YEAR 1877-78.

BARNSTABLE COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employedas Teachers in Pub. Sch'ls.		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Barnstable .	4,302	$2,343,190 00	25	–	$421 33	881	646	5	141	713	6	25	7	5	212–10
Brewster .	1,219	548,575 00	7	–	75 00	212	180	1	40	210	3	10	–	3	52
Chatham .	2,274	706,136 00	14	–	108 89	552	351	7	56	494	3	13	2	1	118–10
Dennis .	3,369	1,581,951 00	14	–	273 42	720	525	3	140	601	8	11	3	2	122–10
Eastham .	639	185,475 00	4	–	40 00	158	112	–	28	138	1	6	1	–	33
Falmouth .	2,211	2,259,209 00	14	$1,553 35	233 42	408	279	4	54	346	3	15	4	3	126
Harwich .	3,355	1,012,800 00	15	–	290 00	723	536	4	156	683	9	14	2	2	112
Mashpee .	278	108,610 00	2	–	31 04	70	42	1	11	69	1	2	1	1	13–10
Orleans .	1,373	417,309 00	8	–	230 00	263	182	2	58	232	1	9	–	–	72–5
Provincetown .	4,357	1,959,582 00	16	–	7,373 58	913	752	–	107	872	3	15	–	3	140–12
Sandwich .	3,417	1,418,750 00	20	2,565 41	776 09	770	512	5	83	687	5	23	3	–	162
Truro .	1,098	268,825 00	7	–	141 51	229	170	4	55	170	2	6	1	1	61
Wellfleet .	1,988	873,516 00	11	–	400 00	389	352	3	78	420	4	10	–	2	91
Yarmouth .	2,264	1,364,659 00	10	–	74 85	369	280	1	62	304	4	10	2	1	90
Total .	32,144	$15,048,587 00	167	$4,118 76	$10,469 13	6,657	4,919	40	1,069	5,939	53	169	26	24	8–9

BERKSHIRE COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	Ma.	Fem.	Atten.	Grad.	Agg'te length of Public Schools for the year, in months and days.
Adams .	15,760	$5,945,079 00	47	–	$980 40	2,995	1,821	–	185	2,995	9	58	18	18	425–10
Alford .	389	269,451 00	3	–	5 00	68	46	2	13	55	1	3	–	–	25

Becket . .	1,329	$405,731 00	11	–	–	275	213	5	31	293	4	13	–	–	69
Cheshire . .	1,693	681,512 00	10	–	$57 39	344	251	6	50	375	4	9	2	2	85
Clarksburg .	670	216,445 00	3	–	243 94	165	88	2	12	163	3	3	2	1	27
Dalton . .	1,759	1,263,153 00	10	–	182 19	435	270	5	20	311	1	9	4	3	75–15
Egremont .	890	530,098 00	5	–	80 10	151	100	3	19	149	3	4	–	–	42–8
Florida . .	572	165,067 00	6	–	136 32	140	97	7	20	108	1	7	1	1	36
Gt. Barrington,	4,385	3,021,087 00	23	–	200 00	853	707	13	86	895	6	22	5	3	198
Hancock . .	730	424,134 00	7	–	500 00	160	120	4	30	127	3	9	2	2	45
Hinsdale .	1,571	745,662 00	10	–	186 84	421	299	16	21	342	1	9	–	1	84–10
Lanesborough .	1,357	640,220 00	9	$870 29	124 51	356	196	16	32	320	–	12	3	2	62–10
Lee . .	3,900	1,892,098 00	18	–	200 00	821	674	19	59	880	5	18	2	–	165–10
Lenox . .	1,845	1,207,932 00	11	–	300 00	425	314	8	42	420	6	11	–	–	92–10
Monterey .	703	242,451 00	7	–	–	169	88	6	20	150	2	8	1	1	49–10
Mt. Washingt'n,	177	76,205 00	2	–	3 10	31	16	–	2	38	1	2	–	–	16–12
New Ashford .	160	91,490 00	2	–	5 00	60	21	2	9	30	2	2	–	–	15–10
New Marlboro',	2,037	668,319 00	14	–	12 00	522	325	24	34	436	2	21	–	–	120–15
North Adams, *	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Otis . .	855	247,784 00	9	455 00	148 00	227	167	13	40	183	4	9	–	–	54
Peru . .	443	158,048 00	5	–	10 00	105	65	3	12	90	4	7	1	–	32–15
Pittsfield .	12,267	7,506,906 00	41	1,900 06	1,616 60	2,411	1,620	17	212	2,483	5	63	3	2	405
Richmond .	1,141	532,226 00	6	–	181 83	196	127	4	9	219	–	8	1	1	46–3
Sandisfield .	1,172	412,812 00	12	–	–	271	162	6	36	227	6	13	–	1	81–5
Savoy . .	730	214,590 00	8	–	50 00	178	114	6	29	147	3	11	1	1	48–16
Sheffield . .	2,233	1,058,220 00	13	–	171 01	482	319	19	70	486	5	17	7	7	105
Stockbridge .	2,089	2,083,335 00	9	–	110 00	345	317	2	80	352	1	10	2	2	65
Tyringham .	517	242,262 00	4	–	100 98	126	68	2	22	106	1	6	1	–	31–15
Washington .	603	229,340 00	6	367 00	–	153	90	8	30	125	3	9	1	–	41–5
W. Stockbridge,	1,981	887,986 00	10	6,400 00	–	490	342	6	43	422	5	9	–	–	85–5
Williamstown .	3,683	1,621,115 00	16	–	160 00	770	562	16	125	622	3	18	6	–	105
Windsor . .	624	222,017 00	8	–	9 94	160	102	8	24	131	5	7	3	1	47
Total . .	68,265	$33,902,775 00	345	$9,992 35	$5,775 15	14,305	9,703	248	1,417	13,680	99	407	66	49	8–1

* New town, returns this year with Adams.

BARNSTABLE COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers board, fuel, care of fires and school-rooms, for the school year 1877-78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Barnstable . .	8–10	–	$64 02	$34 90	$9,500 00	$32 50	$325 00	$50 00	–	$1,800 00	–	$149 31
Brewster . .	7–15	1	60 00	33 00	2,200 00	–	100 00	25 00	–	–	–	–
Chatham . .	8–3	1	59 00	23 17	3,700 00	–	175 00	35 00	$175 00	–	–	59 64
Dennis . .	8–14	–	66 25	35 00	5,800 00	–	175 00	20 00	100 00	–	–	75 91
Eastham . .	8–5	–	43 75	31 90	1,200 00	–	70 00	7 50	–	–	–	–
Falmouth .	9	–	56 67	37 50	4,500 00	–	209 59	45 00	–	10,000 00	$650 00	179 45
Harwich . .	7–10	1	53 00	30 00	5,000 00	–	114 25	85 00	–	–	–	121 49
Mashpee . .	6–15	–	54 00	30 00	500 00	–	30 00	10 00	–	–	–	43 80
Orleans . .	9–1	–	105 25	22 80	2,500 00	–	110 00	43 00	100 00	–	–	–
Provincetown .	8–15	1	91 68	31 08	7,600 00	32 00	359 50	30 00	–	–	–	–
Sandwich . .	8–2	–	57 40	31 48	8,500 00	40 00	325 00	50 00	325 00	3,500 00	200 00	–
Truro . .	9–1	1	60 00	25 00	1,800 00	–	111 70	18 00	–	–	–	55 37
Wellfleet . .	8–15	–	75 00	33 33	4,800 00	–	135 00	35 00	–	–	–	78 00
Yarmouth .	9	–	71 00	37 00	4,250 00	–	140 00	25 00	–	15,000 00	900 00	84 94
Total . .	–	5	$65 50	$31 15	$61,850 00	$104 50	$2,380 04	$478 50	$700 00	$30,300 00	$1,750 00	$847 91

BERKSHIRE COUNTY — CONTINUED.

Adams . .	9–1	–	$88 19	$39 14	$26,500 00	–	$300 00	$195 00	–	–	–	$400 00
Alford . .	8–7	–	32 00	22 67	400 00	–	25 00	5 00	–	–	–	38 00

Becket . .	6–7	–	29 25	21 79	$1,246 96	$50 00	$31 62	$9 00	–	$190 00	$9 50	$138 00
Cheshire . .	8–10	–	57 00	29 40	3,100 00	–	106 00	6 00	–	–	–	153 43
Clarksburg .	9	–	34 80	32 00	800 00	–	18 75	9 00	–	–	–	–
Dalton . .	7–13	1	30 00	32 00	3,000 00	–	80 00	20 00	–	–	–	–
Egremont .	8–18	–	35 34	24 28	1,000 00	111 00	40 00	8 75	–	–	–	70 34
Florida . .	6	–	20 00	21 51	600 00	–	–	–	–	200 00	12 00	–
Gt. Barrington .	8–6	1	52 50	30 00	7,500 00	–	200 00	15 00	–	960 66	57 68	326 25
Hancock . .	6–14	–	35 00	28 00	700 00	–	–	4 00	–	200 00	12 00	64 00
Hinsdale . .	8–9	–	58 33	25 50	2,400 00	–	47 00	10 00	–	247 00	14 52	–
Lanesborough .	7	–	–	28 41	1,800 00	–	74 37	10 00	–	1,200 00	42 00	37 13
Lee . . .	9–4	1	66 00	32 00	7,450 00	500 00	163 60	20 00	–	1,600 00	96 00	–
Lenox . .	8–5	–	62 33	28 00	3,700 00	50 00	120 00	6 00	–	–	–	–
Monterey . .	7	–	25 00	19 75	800 00	–	–	7 00	–	1,733 33	104 00	60 58
Mt. Washington,	8–6	–	30 00	25 00	200 00	–	20 00	8 00	–	–	6 78	16 00
New Ashford .	7–5	–	20 00	20 00	125 00	–	10 00	4 65	–	–	–	20 00
New Marlboro',	8–12	–	31 00	22 84	2,500 00	50 00	132 00	10 00	–	5,458 77	327 52	440 52
North Adams .	–	–	–	–	–	–	–	–	–	–	–	–
Otis . . .	6	–	24 50	19 43	1,100 00	–	73 75	10 50	–	–	–	87 35
Peru . .	6–11	–	23 75	19 92	500 00	–	–	14 00	–	370 50	22 23	–
Pittsfield . .	10	-	104 50	33 12	24,000 00	–	1,078 38	80 00	–	–	–	–
Richmond .	7–14	–	–	32 00	800 00	–	20 00	20 00	–	–	–	81 48
Sandisfield .	6–15	–	40 00	19 50	1,500 00	674 00	57 75	5 00	–	1,290 00	77 40	106 15
Savoy . .	6–2	–	22 33	20 78	400 00	238 00	25 00	10 00	–	1,297 00	77 82	77 20
Sheffield . .	8–7	–	32 00	24 68	2,900 00	–	225 25	–	–	1,600 00	96 00	223 73
Stockbridge .	8–3	–	116 66	34 22	4,000 00	–	244 00	35 00	–	4,000 00	400 00	–
Tyringham .	7–18	2	32 00	26 44	600 00	139 70	31 00	6 00	–	–	–	51 00
Washington .	6–18	–	23 25	19 80	800 00	–	19 25	6 00	–	–	–	80 00
W. Stockbridge,	8–15	–	39 00	30 00	2,800 00	–	70 50	10 00	–	–	–	161 14
Williamstown .	9	2	31 50	29 25	5,000 00	–	80 00	12 50	–	–	–	–
Windsor . .	6–5	–	20 40	17 88	500 00	40 00	22 00	7 00	–	–	–	73 33
Total . .	–	7	$41 95	$26 10	$108,721 96	$1,852 70	$3,315 22	$563 40	–	$20,347 26	$1,355 45	$2,705 63

BARNSTABLE COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.							INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
					LENGTH.										
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Months.	Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Barnstable . .	1	2	60	Taxation,	9		$900 00	–	–	–	1	15	$150 00	$238 44	–
Brewster . .	–	–	–	–	–		–	–	–	–	–	–	–	225 08	–
Chatham . .	1	1	32	Taxation,	9–10		807 50	–	–	–	2	20	60 00	255 62	–
Dennis . .	1	1	50	Taxation,	9		630 00	–	–	–	–	–	–	221 57	$24 98
Eastham . .	–	–	–	–	–		–	–	–	–	–	–	–	215 85	52 00
Falmouth . .	1	2	29	Part tax .	9		1,000 00	1	49	$882 00	–	–	–	188 52	–
Harwich . .	1	1	51	Taxation,	7–10		450 00	–	–	–	–	–	–	228 87	61 50
Mashpee . .	–	–	–	–	–		–	–	–	–	–	–	–	207 75	–
Orleans . .	1	1	61	Taxation,	9–10		1,000 00	–	–	–	–	–	–	225 65	–
Provincetown .	1	2	72	Taxation,	10		1,100 00	–	–	–	–	–	–	239 71	72 05
Sandwich . .	1	2	39	Taxation,	10		1,100 00	1	–	–	–	–	–	220 77	45 00
Truro . .	–	–	–	–	–		–	–	–	–	–	–	–	221 32	45 75
Wellfleet . .	1	1	40	Taxation,	10		1,000 00	–	–	–	–	–	–	246 73	52 00
Yarmouth . .	1	1	24	Part tax .	9		1,050 00	–	–	–	2	24	400 00	190 00	–
Total . .	10	14	458	–	–		$9,037 50	2	49	$882 00	5	59	$610 00	$3,125 88	$353 28

BERKSHIRE COUNTY — CONCLUDED.

Adams . .	2	6	149	Taxation,	9–15		$3,200 00*	–	–	–	–	–	–	$361 41	–
Alford . .	–	–	–	–	–		–	–	–	–	1	9	$40 00	206 27	–

Becket . .	–	–	–	–	–	–	–	–	–	1	35	120 00	236 02	–
Cheshire . .	–	–	–	–	–	–	–	–	–	–	–	–	240 47	$9 00
Clarksburg .	–	–	–	–	–	–	–	–	–	–	–	–	219 27	40 43
Dalton . .	–	–	–	–	–	–	–	–	–	1	12	–	182 37	27 60
Egremont . .	–	–	–	–	–	–	–	–	–	1	15	90 00	216 53	–
Florida . .	–	–	–	–	–	–	–	–	–	–	–	–	212 54	–
Gt. Barrington .	1	2	68	Taxation,	9–5	$1,033 73	–	–	–	1	15	500 00	201 78	–
Hancock . .	–	–	–	–	–	–	–	–	–	–	–	–	213 68	10 00
Hinsdale . .	1	1	37	Taxation,	6	350 00	–	–	–	–	–	–	237 05	–
Lanesborough .	–	–	–	–	–	–	–	–	–	1	5	200 00	230 55	6 00
Lee . . .	1	3	115	Taxation,	10	1,500 00	–	–	–	3	50	500 00	244 94	–
Lenox . .	1	1	60	Taxation,	10	1,200 00	–	–	–	1	50	700 00	196 05	60 00
Monterey . .	–	–	–	–	–	–	–	–	–	1	8	100 00	218 58	28 98
Mt. Washington,	–	–	–	–	–	–	–	–	–	–	–	–	204 90	–
New Ashford .	–	–	–	–	–	–	–	–	–	–	–	–	203 65	–
New Marlboro' .	–	–	–	–	–	–	–	–	–	–	–	–	250 04	29 00
North Adams .	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Otis . . .	–	–	–	–	–	–	–	–	–	–	–	–	223 25	–
Peru . . .	–	–	–	–	–	–	–	–	–	–	–	–	211 86	–
Pittsfield . .	1	3	87	Taxation,	10	1,700 00	–	–	–	7	225	10,500 00	291 53	75 00
Richmond . .	–	–	–	–	–	–	–	–	–	1	7	50 00	228 26	–
Sandisfield .	–	–	–	–	–	–	–	–	–	–	–	–	224 50	–
Savoy . .	–	–	–	–	–	–	–	–	–	–	–	–	214 69	5 00
Sheffield . .	1	1	51	Taxation,	9	590 00	–	–	–	–	–	–	203 33	6 00
Stockbridge .	1	2	60	Taxation,	9–15	1,400 00	–	–	–	2	12	360 00	191 60	–
Tyringham .	–	–	–	–	–	–	–	–	–	–	–	–	212 76	–
Washington .	–	–	–	–	–	–	–	–	–	–	–	–	215 38	–
W. Stockbridge,	–	–	–	–	–	–	–	–	–	–	–	–	248 22	–
Williamstown .	1	1	34	Taxation,	9	542 00	–	–	–	3	88	–	232 52	–
Windsor . .	–	–	–	–	–	–	–	–	–	–	–	–	211 73	–
Total . .	10	20	661	–	–	$11,515 73	–	–	–	24	531	$13,160 00	$6,985 73	297 01

* $1,600 each.

BRISTOL COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls.		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Acushnet .	1,059	$565,550 00	6	$1,277 86	–	204	143	1	25	199	3	8	9	8	52
Attleborough .	9,224	4,617,238 00	35	–	$255 00	1,605	1,120	15	131	1,576	8	45	11	11	307–8
Berkley . .	781	300,912 00	6	–	40 00	125	90	9	11	119	–	7	3	3	39
Dartmouth .	3,434	1,701,800 00	20	–	261 64	665	464	16	33	558	8	19	3	–	162
Dighton . .	1,755	744,903 00	9	–	100 43	420	257	5	65	321	1	13	5	1	72
Easton . .	3,898	2,584,619 00	19	–	1,026 63	934	649	10	99	826	3	22	8	5	163–7
Fairhaven .	2,768	1,450,958 00	11	–	168 56	510	405	1	51	457	1	13	5	1	88–15
Fall River .	45,340	45,658,127 00	108	12,430 52	7,134 91	9,376	5,597	–	350	9,047	11	118	19	18	1039–15
Freetown .	1,396	629,080 00	8	–	–	241	172	8	30	201	2	8	2	1	60–10
Mansfield .	2,656	1,087,009 00	12	–	75 00	542	358	13	37	459	2	15	6	3	103–10
New Bedford .	25,876	26,133,297 00	70	20,028 00	2,659 00	4,122	3,394	–	270	4,208	7	96	–	14	700
Norton . .	1,595	807,914 00	8	1,602 57	313 55	253	194	6	16	240	5	7	4	4	59–10
Raynham .	1,687	943,720 00	9	–	201 38	302	234	3	20	345	–	17	6	5	70–7
Rehoboth .	1,827	769,511 00	15	–	–	364	233	15	38	287	–	18	1	2	105
Seekonk . .	1,167	712,034 00	8	1,704 13	72 12	244	176	12	26	195	–	9	1	1	61
Somerset .	1,940	1,058,468 00	7	–	45 82	438	323	3	32	442	1	15	6	5	56
Swanzey . .	1,308	631,175 00	10	–	–	250	179	6	52	204	5	10	4	1	80
Taunton . .	20,429	15,870,513 00	63	–	2,500 00	3,629	2,681	–	306	3,206	9	62	5	5	630
Westport .	2,912	1,412,100 00	20	–	330 00	600	377	13	80	556	7	21	1	1	168–10
Total . .	131,052	$107,678,928 00	444	$37,043 08	$15,184 04	24,824	17,046	136	1,672	23,446	73	523	99	89	9–1

DUKES COUNTY.

Chilmark . .	508	$239,303 00	4	–	$80 00	95	58	1	17	72	–	4	–	–	24
Edgartown .	1,707	2,131,350 00	9	–	100 00	304	245	5	19	362	2	9	–	–	69
Gay Head .	216	12,447 00	1	–	83 75	26	16	3	–	29	1	1	–	–	6
Gosnold . .	115	206,745 00	1	–	30 57	15	14	–	2	25	–	2	–	–	9
Tisbury . .	1,525	673,915 00	9	–	78 50	287	188	2	51	235	6	6	2	2	62–9
Total . .	4,071	$3,263,750 00	24	–	$372 82	727	521	11	89	723	9	22	2	2	7–2

BRISTOL COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and schoolrooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Acushnet . .	8–13	–	$48 67	$31 60	$1,800 00	–	$95 00	$10 00	–	–	–	$121 12
Attleborough .	8–16	–	72 67	41 57	16,500 00	–	647 75	45 00	–	$16,400 00	–	709 12
Berkley . .	6–10	1	–	32 00	1,000 00	–	40 00	10 00	–	–	–	82 70
Dartmouth .	7–15	–	38 20	26 29	4,500 00	–	105 00	45 00	–	2,000 00	$163 54	230 28
Dighton . .	8	–	40 00	36 00	2,500 00	–	103 75	15 00	–	–	–	180 88
Easton . .	8–12	–	100 88	35 00	7,700 00	–	165 87	61 55	–	–	–	314 28
Fairhaven .	8–2	–	130 00	31 46	5,126 71	–	142 00	30 25	–	–	–	–
Fall River .	9–10	–	142 55	51 69	88,696 83	–	2,360 00	175 72	$2,100 00	–	–	–
Freetown . .	8–5	–	48 00	27 10	1,800 00	–	81 50	5 00	–	–	–	153 67
Mansfield . .	8–13	–	52 92	32 00	4,400 00	–	178 00	36 25	–	1,000 00	60 00	–
New Bedford .	10	–	185 71	65 00	69,422 64	–	2,390 00	112 80	2,300 00	50,000 00	3,000 00	762 21
Norton . .	7–9	1	36 80	33 70	1,800 00	–	90 00	–	–	–	–	231 04
Raynham . .	7–16	–	–	34 00	2,500 00	–	150 00	15 00	150 00	–	–	208 10
Rehoboth . .	7	–	–	29 51	3,200 00	–	90 00	28 00	–	2,800 00	168 00	281 73
Seekonk . .	7–10	1	–	30 00	1,800 00	–	86 00	14 00	–	–	–	191 02
Somerset . .	8	–	48 00	34 20	2,771 17	–	113 00	16 00	–	–	–	–
Swanzey . .	8	–	36 60	31 07	2,689 40	–	100 00	–	100 00	–	–	–
Taunton . .	10	–	127 85	41 57	42,768 25	–	2,000 00	219 00	2,000 00	8,500 00	850 00	–
Westport . .	9	1	37 35	24 41	5,000 00	–	200 00	35 00	–	–	–	342 02
Total . .	–	4	$76 41	$35 16	$265,975 00	–	$9,137 87	$873 57	$6,650 00	$80,700 00	$4,241 54	$3,808 17

DUKES COUNTY — CONTINUED.

Chilmark . .	6	–	–	$33 12	$500 00	–	$42 00	$6 70	–	–	–	–
Edgartown .	7–14	–	$57 50	27 00	3,000 00	–	150 00	50 00	–	–	–	–
Gay Head .	6	–	40 00	17 00	90 00	–	88 72	5 00	–	–	–	–
Gosnold . .	9	–	–	26 00	225 00	–	–	2 50	–	–	–	–
Tisbury . .	6–18	–	46 22	26 09	2,500 00	–	88 25	29 00	–	–	–	–
Total . .	–	–	$47 90	$25 84	6,315 00	–	$368 97	$93 20	–	–	–	–

BRISTOL COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.							INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	LENGTH.		Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
					Months.	Days.									
Acushnet	–	–	–	–	–		–	–	–	–	–	–	–	$221 89	–
Attleborough	2	6	158	Taxation,	10		$2,400 00*	–	–	–	2	40	$230 00	271 87	–
Berkley	–	–	–	–	–		–	–	–	–	1	8	20 00	213 45	–
Dartmouth	1	1	36	Taxation,	9		572 33	–	–	–	–	–	–	208 92	–
Dighton	–	–	–	–	–		–	–	–	–	–	–	–	233 63	–
Easton	1	1	58	Taxation,	9		1,200 00	–	–	–	–	–	–	240 38	$6 75
Fairhaven	1	3	110	Taxation,	9		1,170 00	–	–	–	–	–	–	202 43	8 00
Fall River	1	7	328	Taxation,	10		2,800 00	–	–	–	6	800	10,000 00	–	–
Freetown	–	–	–	–	–		–	–	–	–	–	–	–	228 73	–
Mansfield	1	1	40	Taxation,	9–15		720 00	–	–	–	–	–	–	204 82	16 13
New Bedford	1	10	308	Taxation,	10		2,000 00	1	45	$5,100 00	17	192	4,000 00	–	–
Norton	–	–	–	–	–		–	1	122	6,286 00	1	9	250 00	228 72	–
Raynham	–	–	–	–	–		–	–	–	–	–	–	–	234 99	34 20
Rehoboth	–	–	–	–	–		–	–	–	–	–	–	–	237 15	–
Seekonk	–	–	–	–	–		–	–	–	–	–	–	–	221 89	–
Somerset	–	–	–	–	–		–	–	–	–	–	–	–	194 45	–
Swanzey	–	–	–	–	–		–	–	–	–	–	–	–	223 70	–
Taunton	1	4	219	Taxation,	10		1,600 00	1	28	1,200 00	2	68	600 00	–	–
Westport	1	1	77	Taxation,	9–6		719 44	–	–	–	–	–	–	213 14	–
Total	10	34	1,334	–	–		$13,181 77	3	195	$12,586 00	29	1,117	$15,100 00	$3,580 16	$65 08

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* $1,200 each.

DUKES COUNTY — CONCLUDED.

Chilmark . .	–	–	–	–	–	–	–	–	–	–	–	–	$209 23	–
Edgartown .	1	2	37	Taxation,	9	$650 50	–	–	–	–	–	–	190 46	–
Gay Head . .	–	–	–	–	–	–	–	–	–	–	–	–	204 22	–
Gosnold . .	–	–	–	–	–	–	–	–	–	–	–	–	202 62	–
Tisbury . .	–	–	–	–	–	–	1	50	$175 00	1	14	$4,900 00	225 30	–
Total . .	1	2	37	–	–	$650 50	1	50	$175 00	1	14	$4,900 00	$1,031 83	–

ESSEX COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls.		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Amesbury .	5,987	$1,224,901 00	19	–	$422 40	720	569	6	46	677	2	20	3	3	155–11
Andover .	5,097	2,953,541 00	20	$7,408 00	977 00	918	702	24	87	884	2	28	2	2	183–2
Beverly .	7,263	8,333,830 00	27	–	341 00	1,369	1,057	–	113	1,331	1	35	3	1	270
Boxford .	834	575,620 00	5	–	105 00	146	90	5	23	108	–	9	–	–	43–15
Bradford .	2,347	1,262,536 00	8	–	372 22	443	275	1	64	375	2	12	1	1	78
Danvers .	6,024	3,519,400 00	20	–	500 00	1,075	903	4	51	1,100	5	27	7	3	180–10
Essex .	1,713	861,168 00	10	–	110 00	330	261	4	60	308	3	11	5	4	82
Georgetown .	2,214	1,168,625 00	10	–	331 24	430	322	–	6	410	1	10	2	2	90
Gloucester .	16,754	9,615,602 00	70	–	4,566 11	4,256	3,097	–	349	3,843	5	96	17	15	619
Groveland .	2,084	836,784 00	8	2,505 32	142 00	466	288	2	31	433	1	7	–	–	72
Hamilton .	797	595,090 00	4	–	66 71	158	98	1	14	145	4	4	4	1	31
Haverhill .	14,628	10,342,954 00	56	–	3,246 44	2,921	2,311	13	291	2,591	6	64	7	7	552
Ipswich .	3,674	1,835,845 00	14	1,192 50	150 00	552	480	–	100	560	3	16	2	2	134–5
Lawrence .	34,907	23,902,537 00	75	–	2,000 00	5,000	4,082	–	275	6,088	7	115	12	12	750
Lynn .	32,600	24,995,339 00	100	4,069 10	4,589 94	5,650	4,409	–	375	5,799	9	108	13	28	1050
Lynnfield .	769	578,464 00	4	–	59 25	134	84	6	16	118	–	4	1	1	29–10
Manchester .	1,560	1,746,222 00	8	–	75 00	304	215	–	40	257	1	8	3	2	69–10
Marblehead .	7,677	3,708,700 00	19	–	294 69	1,610	1,172	–	95	1,491	2	25	7	2	194–15
Merrimac .	–	1,133,895 00	12	1,060 91	503 31	369	306	5	30	344	2	14	5	5	94–5
Methuen .	4,205	2,223,106 00	16	–	121 90	772	466	8	52	676	8	18	2	1	144
Middleton .	1,092	502,855 00	5	–	–	212	135	1	29	193	2	3	2	1	45
Nahant .	766	5,652,406 00	3	–	179 42	103	98	–	18	95	1	2	3	3	30
Newbury .	1,426	868,584 00	7	1,150 00	191 00	248	171	17	7	240	–	8	2	1	62

Newburyport .	13,323	$7,644,984 00	23	–	$1,356 14	2,285	1,532	–	–	2,511	7	39	–	–	230
North Andover,	2,981	2,077,849 00	14	–	233 55	614	487	6	51	513	5	14	3	3	113–2
Peabody . .	8,066	6,443,650 00	22	–	1,015 00	1,555	1,188	4	113	1,439	4	32	14	8	225–10
Rockport .	4,490	1,983,591 00	12	–	758 47	753	565	–	76	762	1	17	5	5	102
Rowley . .	1,162	506,195 00	5	–	75 00	178	125	8	12	217	1	6	–	–	43–15
Salem . .	25,955	24,706,293 00	77	–	4,265 74	4,160	2,766	–	304	4,460	6	80	58	50	770
Salisbury .	4,078	1,693,088 00	18	–	212 00	742	542	14	59	644	6	17	1	1	153
Saugus . .	2,578	1,681,980 00	12	–	100 00	467	374	–	37	474	1	14	6	6	114
Swampscott .	2,128	2,382,258 00	9	–	–	420	297	–	40	380	–	12	1	4	93–10
Topsfield .	1,221	733,815 00	5	–	129 00	196	133	12	15	225	–	6	1	1	40
Wenham .	911	549,950 00	5	–	–	165	141	2	15	148	–	5	3	3	42–10
West Newbury,	2,021	1,036,818 00	11	–	387 06	392	277	4	27	374	3	9	2	2	88
Total . .	223,332	$159,878,475 00	733	$17,385 83	$27,876 59	41,113	30,018	147	2,921	40,213	101	895	197	180	9–10

ESSEX COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and schoolrooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Amesbury .	8–4	–	$81 66	$26 41	$6,200 00	–	$150 60	$37 50	–	–	–	$168 96
Andover .	9–5	–	40 00	40 00	9,500 00	–	450 00	75 00	–	$147,000 00	$8,920 00	–
Beverly .	10	–	120 00	37 67	17,500 00	–	137 00	68 00	–	3,000 00	180 00	–
Boxford .	8–15	–	–	32 00	1,000 00	–	75 00	25 00	–	2,438 00	148 00	196 00
Bradford .	9–15	–	153 84	40 02	5,500 00	–	150 00	12 00	–	200,000 00	–	–
Danvers .	9–10	–	118 00	30 00	11,150 00	–	500 00	75 00	–	–	–	454 00
Essex .	8–2	–	63 53	23 54	2,500 00	–	180 00	30 00	–	–	–	302 14
Georgetown .	9	–	111 11	38 66	4,500 00	–	200 00	35 00	–	–	–	126 85
Gloucester .	9–16	3	124 60	39 00	41,895 35	–	2,500 00	280 00	$2,500 00	–	–	900 22
Groveland .	9	–	88 89	36 00	3,600 00	–	166 25	15 00	–	–	–	–
Hamilton .	7–15	–	55 00	25 75	1,000 00	–	45 00	11 37	–	–	–	85 24
Haverhill .	10	–	144 00	53 69	51,000 00	–	1,103 60	115 28	–	–	–	430 00
Ipswich .	9–10	–	95 00	35 36	6,000 00	$150 00	150 00	25 00	–	30,000 00	2,056 99	254 97
Lawrence .	10	–	160 00	45 00	60,000 00	–	2,500 00	–	2,500 00	–	–	–
Lynn .	10–10	–	156 72	54 22	78,712 64	–	1,891 37	499 49	–	–	–	–
Lynnfield .	9	–	–	35 00	1,200 00	–	68 00	20 00	–	–	–	68 42
Manchester .	9–8	–	78 95	29 28	2,800 00	–	200 00	40 00	–	–	–	–
Marblehead .	10–5	–	117 20	39 36	15,500 00	250 00	–	90 00	–	8,000 00	600 00	434 24
Merrimac .	7–17	–	99 99	29 60	4,800 00	–	150 00	15 00	–	–	–	88 95
Methuen .	9	–	47 68	37 04	8,700 00	–	200 00	39 00	–	–	–	–
Middleton .	9	–	44 67	32 00	1,500 00	–	86 50	22 00	–	–	–	90 53
Nahant .	10	–	150 00	62 50	3,597 76	–	175 00	105 00	–	–	–	–
Newbury .	8–17	–	–	28 43	1,700 00	–	57 00	15 00	–	20,000 00	1,100 00	98 92

Newburyport .	10	–	$102 00	$32 00	$25,500 00	$900 00	–	$115 00	–	$15,000 00	$900 00	$654 59
North Andover,	9–1	–	92 00	44 42	8,300 00	–	$125 00	36 00	–	–	–	–
Peabody . .	10–5	–	146 34	41 65	21,985 00	–	451 00	81 65	–	6,000 00	360 00	802 56
Rockport . .	8–10	1	60 00	24 50	5,530 35	80 00	278 75	28 25	–	–	–	–
Rowley . .	8–15	–	50 00	24 00	1,500 00	–	98 00	20 00	–	–	–	98 94
Salem . .	10	–	181 67	56 53	68,601 45	–	2,500 00	325 83	$2,500 00	5,425 00	285 50	1,511 06
Salisbury . .	8–5	–	75 00	31 00	6,200 00	–	235 00	60 00	–	–	–	192 57
Saugus . .	9–10	–	22 50	36 67	6,000 00	–	150 00	80 00	–	–	–	–
Swampscott .	9–15	1	–	37 69	7,000 00	–	195 00	36 80	–	–	–	–
Topsfield . .	8	–	–	34 67	1,200 00	–	50 00	15 11	50 00	–	–	117 87
Wenham . .	8–10	–	–	32 20	1,350 00	–	82 00	14 00	–	–	–	75 00
West Newbury,	8	–	45 83	28 75	3,326 12	–	171 00	32 00	–	–	–	–
Total. .	–	5	$97 45	$36 41	$496,348 67	$1,380 00	$15,470 47	$2,494 28	$7,550 00	$436,863 00	$14,550 49	$7,152 03

ESSEX COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Amesbury . .	1	1	44	Taxation,	10	$1,000 00	–	–	–	3	70	$80 00	$222 61	–
Andover . .	1	3	56	Not by tax,	9-10	2,000 00	2	276	$15,743 00	1	18	350 00	248 82	–
Beverly . .	1	4	122	Taxation,	10	1,200 00	–	–	–	1	30	270 00	151 80	–
Boxford . .	–	–	–	–	–	–	–	–	–	1	6	1,000 00	212 65	–
Bradford . .	1	2	58	Taxation,	9-15	1,500 00	1	108	5,070 00	1	10	200 00	193 08	–
Danvers . .	1	2	73	Taxation,	10	1,600 00	–	–	–	2	41	450 00	227 31	–
Essex . .	–	–	–	–	–	–	–	–	–	–	–	–	238 52	–
Georgetown .	1	2	74	Taxation,	9	1,000 00	–	–	–	–	–	–	191 60	–
Gloucester . .	1	6	251	Taxation,	10	2,000 00	–	–	–	2	70	725 00	420 69	$200 00
Groveland . .	1	1	53	Taxation,	9	800 00	–	–	–	–	–	–	238 29	–
Hamilton . .	–	–	–	–	–	–	–	–	–	1	15	18 00	216 07	–
Haverhill . .	1	8	181	Taxation,	10	2,000 00	–	–	–	3	72	1,000 00	–	–
Ipswich . .	1	2	62	Part tax,	10	1,500 00	–	–	–	–	–	–	212 80	–
Lawrence . .	1	9	242	Taxation,	10	2,500 00	–	–	–	2	1,004	–	–	–
Lynn . .	1	5	182	Taxation,	10-10	2,200 00	–	–	–	6	76	2,700 00	–	–
Lynnfield . .	–	–	–	–	–	–	–	–	–	–	–	–	213 90	–
Manchester .	1	1	43	Taxation,	9-10	750 00	–	–	–	–	–	–	179 98	48 00
Marblehead, .	1	2	92	Taxation,	10-5	1,201 30	–	–	–	2	36	108 00	278 25	–
Merrimac . .	2	2	72	Taxation,	9-10	1,900 00	–	–	–	1	15	18 00	187 15	–
Methuen . .	1	2	48	Taxation,	9	1,000 00	–	–	–	1	7	168 00	226 13	40 00
Middleton . .	–	–	–	–	–	–	–	–	–	–	–	–	221 10	–
Nahant . .	1	1	24	Taxation,	10	1,500 00	–	–	–	–	–	–	9 58	–
Newbury . .	–	–	–	–	–	–	1	35	400 00	–	–	–	225 65	–

Newburyport .	1	4	170	Taxation,	10	1,900 00	–	–	–	–	–	–	285 51	–
North Andover .	1	2	47	Taxation,	9–10	1,200 00	–	–	–	1	7	200 00	210 07	–
Peabody . .	1	3	87	Taxation,	10–5	1,700 00	–	–	–	2	40	400 00	161 72	–
Rockport . .	1	2	41	Taxation,	9	600 00	–	–	–	2	56	500 00	240 38	–
Rowley . .	–	–	–	–	–	–	–	–	–	–	–	–	223 37	–
Salem . .	1	8	211	Taxation,	9–15	2,500 00	–	–	–	28	773	10,500 00	–	–
Salisbury . .	1	1	61	Taxation,	9–10	950 00	–	–	–	–	–	–	227 27	–
Saugus . .	1	2	40	Taxation,	9–10	855 00	–	–	–	–	–	–	203 00	–
Swampscott .	1	1	34	Taxation,	10	650 00	–	–	–	–	–	–	190 57	–
Topsfield . .	–	–	–	–	–	–	–	–	–	–	–	–	225 08	–
Wenham . .	–	–	–	–	–	–	–	–	–	–	–	–	217 69	–
West Newbury .	1	1	36	Taxation,	8	500 00	–	–	–	–	–	–	192 28	–
Total . .	27	77	2,404	–	–	$36,506 30	4	419	$21,213 00	60	2,346	$18,687 00	$6,692 92	$288 00

FRANKLIN COUNTY.

TOWNS.	Population—State Census, 1875.	Valuation—1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls. Ma.	No. of different persons employed as Teachers in Pub. Sch'ls. Fem.	Number of Teachers from Nor. Schools. Atten.	Number of Teachers from Nor. Schools. Grad.	Agg'te length of Public Schools for the year in months and days.
Ashfield . .	1,190	$470,957 00	14	–	$74 86	263	183	9	53	206	2	20	2	1	86–13
Bernardston .	991	404,845 00	6	–	489 00	182	140	4	8	170	–	8	–	–	46–5
Buckland .	1,921	538,672 00	10	–	19 96	466	322	13	25	419	1	13	6	5	70
Charlemont .	1,029	327,825 00	9	–	167 43	186	133	4	53	129	1	11	1	1	54–10
Colrain . .	1,699	588,238 00	15	–	563 88	409	272	8	67	286	4	22	1	–	105
Conway . .	1,452	698,411 00	14	–	223 11	314	240	13	32	276	–	15	4	4	95–5
Deerfield .	3,414	1,274,281 00	20	–	400 00	610	560	8	20	600	3	27	11	11	142–3
Erving . .	794	286,676 00	6	–	106 37	171	120	5	23	125	1	6	2	2	46–5
Gill . .	673	460,766 00	6	–	28 00	134	125	6	10	116	–	8	–	–	41–10
Greenfield .	3,540	2,527,597 00	18	$7,000 00	181 86	679	539	12	111	596	2	24	6	4	160–3
Hawley . .	588	151,731 00	8	–	20 00	164	122	4	15	137	1	13	2	2	48
Heath . .	545	179,927 00	8	500 00	–	144	107	5	30	108	3	10	1	–	48
Leverett . .	831	308,600 00	6	–	–	181	155	5	22	117	–	9	1	–	41–18
Leyden . .	524	196,209 00	5	–	40 00	124	77	2	16	120	3	6	–	–	32–5
Monroe . .	190	47,224 00	3	–	–	73	48	5	10	54	–	6	–	–	18
Montague .	3,380	2,043,431 00	17	–	412 60	620	518	3	57	605	2	23	11	10	128–10
New Salem .	923	322,500 00	7	–	–	165	122	8	27	133	3	7	–	–	42
Northfield .	1,641	694,150 00	12	–	25 25	325	280	7	42	281	4	14	–	–	67–5
Orange . .	2,497	1,397,640 00	16	10,681 00	133 00	402	314	3	28	394	1	22	–	–	108
Rowe . .	661	178,720 00	7	–	40 00	148	91	6	34	107	2	7	–	–	42
Shelburne .	1,590	808,721 00	11	–	246 00	370	248	2	93	263	2	18	5	4	100–5
Shutesbury .	558	175,598 00	7	–	–	136	90	5	15	111	1	8	–	1	42
Sunderland .	860	380,824 00	6	–	53 00	205	151	5	17	162	–	10	1	–	45–10

Warwick .	744	$255,985 00	9	–	–	150	118	5	30	128	1	13	3	2	53–10
Wendell .	503	164,560 00	5	–	562 18	108	60	3	9	91	–	9	–	–	30
Whately .	958	570,723 00	6	–	30 00	181	134	–	5	201	–	9	2	2	53
Total .	33,696	$15,454,811 00	251	$18,181 00	$3,816 50	6,910	5,269	150	852	5,935	37	338	59	49	6–19

HAMPDEN COUNTY.

Agawam .	2,248	$1,141,422 00	10	–	$25 00	438	279	2	29	376	3	10	4	2	71–15
Blandford .	964	357,525 00	13	–	392 80	247	190	11	39	205	3	16	2	2	82–15
Brimfield .	1,201	482,560 00	8	–	191 94	236	142	7	16	226	–	11	–	–	56
Chester .	1,396	474,280 00	11	–	115 52	284	205	3	21	259	2	16	1	1	88
Chicopee .	10,335	4,940,397 00	26	–	–	1,330	1,028	20	95	1,915	5	34	10	9	231–15
Granville .	1,240	383,795 00	12	$512 00	25 00	282	187	7	39	269	2	18	4	3	75–4
Hampden * .	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Holland .	334	129,983 00	6	–	–	70	51	–	16	59	2	5	–	–	18–5
Holyoke .	16,260	9,397,430 00	35	–	2,500 00	2,031	1,301	4	84	2,523	6	36	7	5	350
Longmeadow .	1,467	1,005,715 00	11	–	108 37	313	206	3	52	257	3	12	2	2	98–15
Ludlow .	1,222	507,157 00	9	750 00	159 75	275	167	11	37	231	2	13	–	–	79–5
Monson .	3,733	1,375,453 00	17	1,092 17	38 17	618	393	15	45	605	9	20	–	–	132–13
Montgomery .	304	137,048 00	5	–	10 15	69	49	1	12	49	–	8	–	–	30–4
Palmer .	4,572	1,973,255 00	19	–	487 71	1,023	589	10	47	913	3	21	–	–	177
Russell .	643	397,487 00	5	–	27 35	116	83	4	3	119	–	7	–	–	32–15
Southwick .	1,114	582,469 00	10	–	10 00	261	164	11	57	203	2	14	5	1	77–5
Springfield .	31,053	30,692,777 00	91	–	2,938 91	5,877	4,332	26	522	5,375	10	106	18	12	910
Tolland .	452	227,426 00	7	–	70 00	82	52	1	11	85	1	9	4	3	40–10
Wales .	1,020	403,033 00	6	–	81 30	165	107	13	8	130	–	9	–	–	45
Westfield .	8,431	7,371,575 00	30	–	2,606 24	1,450	1,271	12	193	1,411	4	48	45	44	274
W. Springfield,	3,739	2,793,014 00	17	–	248 00	729	500	7	47	696	1	19	6	6	154
Wilbraham .	2,576	943,649 00	14	722 84	40 75	375	281	11	35	430	4	20	2	1	105–10
Total .	94,304	$65,717,450 00	362	$3,077 01	$10,076 96	16,271	11,577	179	1,408	16,336	62	452	110	91	8–14

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* New town, returns included this year with Wilbraham.

FRANKLIN COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Ashfield . .	6–8	2	$31 00	$24 36	$1,750 00	$462 00	$103 75	$18 00	–	$900 00	$54 00	$50 25
Bernardston .	7–17	–	–	29 17	733 34	–	88 50	12 25	–	10,716 67	1,250 00	–
Buckland. .	7	–	38 00	28 25	1,800 00	–	118 75	23 00	–	915 00	54 89	117 05
Charlemont .	6–1	–	40 00	23 44	1,500 00	–	75 00	25 00	–	800 00	48 00	60 90
Colrain . .	7	–	27 00	22 42	1,800 00	530 00	136 50	14 00	–	–	–	–
Conway . .	6–16	–	–	25 98	2,100 00	85 00	101 50	14 00	–	–	–	146 79
Deerfield . .	7	–	34 34	31 00	5,125 00	–	407 15	30 00	–	15,000 00	1,000 00	153 50
Erving . .	7–15	–	37 00	29 20	1,200 00	–	78 89	10 00	–	900 00	40 50	82 50
Gill . . .	6–18	–	–	31 75	800 00	256 00	42 00	8 00	–	–	–	–
Greenfield .	8–17	–	90 50	37 68	10,000 00	–	401 55	18 80	–	–	–	229 35
Hawley . .	6	–	28 00	17 71	1,000 00	24 00	43 00	10 00	–	400 00	24 00	–
Heath . .	6	–	36 27	19 56	1,000 00	–	40 00	9 00	–	–	–	–
Leverett . .	6–19	–	–	25 45	806 16	–	33 25	18 00	–	–	–	47 45
Leyden . .	6–9	–	30 66	22 60	700 00	–	34 25	5 00	–	–	–	–
Monroe . .	6	–	–	16 78	200 00	–	23 75	4 75	–	–	–	–
Montague .	7–12	–	35 00	36 66	6,000 00	–	297 00	25 00	–	–	–	–
New Salem .	6	–	26 71	22 23	1,000 00	–	41 25	5 00	–	15,000 00	700 00	33 85
Northfield .	6–8	4	36 00	28 00	2,500 00	–	129 29	15 00	–	400 00	24 00	175 27
Orange . .	6–18	–	111 11	26 33	3,800 00	–	243 00	37 25	–	–	–	–
Rowe . .	6	–	23 50	20 47	700 00	–	30 00	12 00	–	200 00	12 00	41 55
Shelburne .	8–9	–	28 00	32 00	3,283 00	–	95 00	25 00	–	–	–	73 25
Shutesbury .	6	–	22 00	22 87	700 00	–	50 00	6 00	–	267 00	16 00	29 50
Sunderland .	7–11	1	–	29 72	1,500 00	–	75 00	9 00	–	–	–	59 51

Warwick . .	5–19	1	32 00	21 70	1,000 00	–	50 00	18 00	–	500 00	30 00	–
Wendell . .	6	–	–	21 38	700 00	–	53 75	6 00	–	540 00	32 40	39 45
Whately . .	8–18	–	–	24 00	1,200 00	–	65 00	15 00	–	–	–	61 60
Total .	–	8	$39 28	$25 79	$52,897 50	$1,357 00	$2,857 13	$393 05	–	$46,538 67	$3,285 79	$1,401 77

HAMPDEN COUNTY — Continued.

Agawam . .	9	–	$45 33	$37 55	$3,000 00	–	$109 00	–	–	–	–	–
Blandford .	6–8	2	33 00	28 00	1,200 00	$993 00	43 00	$12 00	–	$2,500 00	–	$112 80
Brimfield . .	7	–	–	27 87	1,700 00	–	76 00	12 00	–	67,000 00	$4,100 00	–
Chester . .	8	–	34 00	20 61	1,800 00	–	97 62	10 00	–	–	–	–
Chicopee . .	9	–	125 50	40 28	19,307 00	–	600 00	30 00	–	–	–	–
Granville . .	6–10	–	32 00	28 00	1,800 00	30 00	60 00	12 00	–	–	–	156 96
Hampden . .	–	–	–	–	–	–	–	–	–	–	–	–
Holland . .	3–13	–	20 00	20 00	200 00	–	25 00	5 00	–	222 22	13 33	20 16
Holyoke . .	10	–	95 00	40 91	23,200 00	–	1,600 00	44 34	$1,600 00	–	–	700 24
Longmeadow .	9	–	39 33	31 88	3,300 00	–	97 00	21 00	–	731 00	52 67	148 80
Ludlow . .	7	–	29 00	25 00	1,900 00	–	90 00	7 00	–	–	–	147 40
Monson . .	7–16	–	32 30	28 42	5,000 00	–	140 00	20 00	–	25,500 00	1,800 00	305 76
Montgomery .	6	–	–	22 00	500 00	50 00	28 30	6 50	–	–	–	–
Palmer . .	8–8	–	66 00	31 14	6,500 00	–	325 00	18 00	–	850 00	52 27	298 56
Russell . .	6–10	–	–	24 00	800 00	–	26 00	–	–	–	–	48 48
Southwick .	7–15	–	25 00	27 80	1,000 00	–	102 00	12 25	–	15,618 01	937 05	99 36
Springfield .	10	–	165 00	50 00	88,500 00	–	3,250 00	17 00	3,200 00	–	–	–
Tolland . .	5–16	2	37 00	20 55	500 00	221 00	24 50	3 00	–	–	–	62 88
Wales . .	7–10	–	–	22 66	800 00	–	77 75	15 00	–	–	–	73 44
Westfield . .	9–3	–	127 50	37 00	19,125 00	–	500 00	76 68	–	56,180 80	3,370 84	696 48
W. Springfield,	9–1	–	100 00	31 45	7,000 00	–	200 00	19 00	–	13,000 00	864 00	395 78
Wilbraham .	8	–	29 25	27 80	3,000 00	–	188 75	20 00	–	1,705 16	102 31	227 77
Total .	–	4	$60 89	$29 66	$190,132 00	$1,294 00	$7,659 92	$360 77	$4,800 00	$183,307 19	$11,292 47	$3,494 87

FRANKLIN COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Ashfield	–	–	–	–	–	–	1	50	$200 00	–	–	–	$225 30	$40 00
Bernardston	1	3	65	Part tax.	8–10	$600 00	–	–	–	–	–	–	217 78	–
Buckland	–	–	–	–	–	–	–	–	–	–	–	–	247 98	5 05
Charlemont	–	–	–	–	–	–	–	–	–	–	–	–	217 90	14 10
Colrain	–	–	–	–	–	–	–	–	–	2	25	$50 00	237 04	–
Conway	1	1	44	Taxation,	8–10	500 00	–	–	–	1	6	100 00	232 15	22 28
Deerfield	1	3	85	Taxation,	9–8	648 00	–	–	–	–	–	–	215 08	–
Erving	–	–	–	–	–	–	–	–	–	1	30	30 00	216 64	2 40
Gill	–	–	–	–	–	–	–	–	–	–	–	–	212 65	–
Greenfield	1	3	101	Taxation,	9–5	1,450 00	–	–	–	2	52	1,416 00	218 15	38 00
Hawley	–	–	–	–	–	–	–	–	–	–	–	–	214 14	–
Heath	–	–	–	–	–	–	–	–	–	–	–	–	212 54	–
Leverett	–	–	–	–	–	–	–	–	–	–	–	–	213 79	–
Leyden	–	–	–	–	–	–	–	–	–	1	–	108 00	212 77	–
Monroe	–	–	–	–	–	–	–	–	–	–	–	–	205 47	–
Montague	1	1	32	Taxation,	9	500 00	–	–	–	3	20	85 00	220 19	10 00
New Salem	–	–	–	–	–	–	1	65	475 00	1	14	21 00	217 90	16 30
Northfield	–	–	–	–	–	–	–	–	–	1	25	600 00	230 21	21 19
Orange	1	1	34	Taxation,	9	1,000 00	–	–	–	1	30	300 00	195 25	–
Rowe	–	–	–	–	–	–	–	–	–	1	5	15 00	213 44	4 00
Shelburne	1	1	54	Taxation,	9	720 00	–	–	–	–	–	–	228 38	–
Shutesbury	–	–	–	–	–	–	–	–	–	–	–	–	212 20	11 95
Sunderland	–	–	–	–	–	–	–	–	–	–	–	–	218 92	12 33

Warwick . .	–	–	–	–	–	–	–	–	–	–	–	–	$213 68	–
Wendell . .	–	–	–	–	–	–	–	–	–	–	–	–	209 23	–
Whately . .	–	–	–	–	–	–	–	–	–	1	22	$125 00	224 17	–
Total . .	7	13	415	–	–	$5,418 00	2	115	$675 00	15	229	$2,750 00	$5,682 95	$197 60

HAMPDEN COUNTY — Concluded.

Agawam . .	–	–	–	–	–	–	–	–	–	–	–	–	$191 94	$12 00
Blandford . .	–	–	–	–	–	–	–	–	–	–	–	–	220 29	–
Brimfield . .	1	4	160	End'wm't,	10	$1,500 00	–	–	–	–	–	–	224 51	19 98
Chester . .	–	–	–	–	–	–	–	–	–	2	–	–	229 07	–
Chicopee . .	2	5	79	Taxation,	10 10	1,840 00 1,100 00	–	–	–	2	58	–	324 53	–
Granville . .	–	–	–	–	–	–	–	–	–	–	–	–	231 79	–
Hampden . .	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Holland . .	–	–	–	–	–	–	–	–	–	–	–	–	207 07	–
Holyoke . .	1	3	105	Taxation,	10	1,600 00	–	–	–	3	1,100	$5,500 00	339 98	–
Longmeadow .	–	–	–	–	–	–	–	–	–	–	–	–	178 73	–
Ludlow . .	–	–	–	–	–	–	–	–	–	1	35	175 00	224 51	–
Monson . .	1	3	65	Taxation,	10	1,200 00	1	127	$1,779 46	1	–	–	222 02	–
Montgomery .	–	–	–	–	–	–	–	–	–	–	–	–	206 61	19 20
Palmer . .	1	1	61	Taxation,	9	828 00	–	–	–	–	–	–	252 80	–
Russell . .	–	–	–	–	–	–	–	–	–	–	–	–	212 65	–
Southwick .	–	–	–	–	–	–	–	–	–	–	–	–	222 00	–
Springfield .	1	9	399	Taxation,	10	2,600 00	–	–	–	6	160	$7,500 00	–	–
Tolland . .	–	–	–	–	–	–	–	–	–	–	–	–	209 35	–
Wales . .	–	–	–	–	–	–	–	–	–	–	–	–	216 19	–
Westfield . .	1	5	206	Taxation,	10	1,900 00	–	–	–	2	31	450 00	159 44	27 75
West Springfield,	1	2	50	Taxation,	10	1,000 00	–	–	–	1	20	180 00	226 82	–
Wilbraham .	–	–	–	–	–	–	1	324	8,000 00	2	51	225 00	246 62	–
Total . .	9	32	1,125	–	–	$13,568 00	2	451	$9,779 46	20	1,455	$14,030 00	$4,546 92	$78 93

HAMPSHIRE COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls.		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Amherst . .	3,937	$2,442,342 00	18	–	$883 57	704	555	3	112	682	1	24	3	3	144–15
Belchertown .	2,315	973,014 00	19	–	703 00	591	383	22	82	483	6	20	2	2	143–15
Chesterfield .	746	290,235 00	9	–	100 00	126	107	7	16	128	1	12	–	–	59–5
Cummington .	916	378,223 00	9	–	–	179	137	2	33	157	2	11	–	2	64–10
Easthampton .	3,972	2,285,214 00	18	$2,081 60	368 26	911	640	3	105	869	–	23	1	5	147
Enfield . .	1,065	613,740 00	8	–	19 28	181	142	–	5	185	2	11	–	–	56–18
Goshen . .	349	145,275 00	4	–	6 20	78	49	–	13	77	2	5	1	–	26
Granby . .	812	456,656 00	9	700 00	68 26	164	148	6	15	148	2	10	2	–	70
Greenwich .	606	261,589 00	6	–	42 15	100	69	–	18	85	–	7	1	1	36
Hadley . .	2,125	1,353,457 00	13	–	375 55	482	343	4	19	438	1	17	5	4	97–5
Hatfield . .	1,600	1,096,269 00	7	–	47 10	306	214	10	17	301	–	11	1	–	64–15
Huntington .	1,095	463,820 00	9	–	84 52	207	139	6	24	194	–	13	1	1	66–5
Middlefield .	603	327,690 00	8	350 00	200 00	170	115	5	19	149	6	9	–	–	55
Northampton .	11,108	7,565,113 00	53	5,187 66	2,872 61	2,247	1,732	24	204	2,043	4	68	8	6	445
Pelham . .	633	165,158 00	4	–	48 59	106	76	1	15	103	1	4	–	–	28
Plainfield .	481	172,280 00	6	–	27 11	96	64	1	13	68	1	11	3	3	36
Prescott . .	493	192,762 00	5	–	–	122	73	2	23	104	2	8	–	–	33
South Hadley .	3,370	1,630,889 00	13	–	736 00	732	522	4	74	579	5	16	2	2	117–5
Southampton .	1,050	489,122 00	8	–	–	212	141	5	32	192	3	10	2	–	62–2
Ware . .	4,142	1,645,620 00	19	–	–	856	567	3	60	934	6	20	–	1	142–10
Westhampton .	556	264,014 00	5	–	17 50	120	90	2	12	132	1	7	1	1	40

Williamsburg .	2,029	963,263 00	12	$385 00	–	454	276	4	12	469	–	17	2	2	107–10
Worthington .	818	342,203 00	11	–	$242 36	173	109	8	28	136	2	14	1	–	70–10
Total . .	44,821	$24,517,948 00	273	$704 26	$6,842 06	9,313	6,691	122	951	8,656	48	348	36	33	7–15

HAMPSHIRE COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877-78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Amherst . .	8–15	–	$125 92	$33 32	$7,361 93	–	$500 00	$60 00	–	$5,000 00	$300 00	$123 45
Belchertown .	8	–	39 00	25 00	4,500 00	–	224 00	32 00	–	–	–	115 22
Chesterfield .	6–12	–	35 00	23 46	900 00	$330 75	49 00	10 00	–	1,100 00	77 00	256 00
Cummington .	7–5	–	35 00	25 09	1,000 00	–	–	20 00	–	–	–	30 94
Easthampton .	8–13	–	–	37 36	6,500 00	–	180 00	–	–	57,000 00	5,000 00	140 96
Enfield . .	7–2	–	37 50	22 76	1,300 00	–	73 00	8 00	–	100 14	–	–
Goshen . .	6–10	–	24 00	24 00	350 00	–	29 50	–	–	–	–	–
Granby . .	7–15	–	50 00	22 00	1,500 00	–	87 50	12 00	–	–	–	36 33
Greenwich .	6	–	–	22 71	900 00	–	46 50	12 00	–	–	–	29 23
Hadley . .	7–10	–	20 00	26 50	2,750 00	–	133 15	11 00	–	30,000 00	600 00	–
Hatfield . .	9–5	–	–	26 68	1,800 00	–	81 65	15 00	–	32,760 00	2,786 00	70 81
Huntington .	7–5	–	–	22 89	1,400 00	–	127 00	17 85	–	–	–	60 45
Middlefield .	6–18	–	21 80	20 50	850 00	–	60 00	7 00	–	–	–	125 00
Northampton .	8–8	–	88 12	33 71	21,550 00	–	1,200 00	91 84	$1,200 00	3,008 75	168 00	553 19
Pelham . .	7	–	20 00	20 00	700 00	–	50 68	10 00	–	–	–	40 02
Plainfield . .	6	–	22 00	20 00	600 00	–	49 20	6 60	–	–	–	13 62
Prescott . .	6	–	28 50	22 51	450 00	–	46 25	10 00	–	–	–	38 56
South Hadley .	9	–	103 20	36 25	8,500 00	–	100 00	26 00	–	2,000 00	200 00	118 91
Southampton .	7–15	–	28 34	25 90	1,250 00	–	59 00	10 00	–	1,875 00	112 50	81 73
Ware . .	7–10	–	64 14	30 90	5,500 00	–	321 58	21 00	–	–	–	–
Westhampton .	8	–	32 00	21 00	1,000 00	–	45 50	–	–	–	–	16 58

Williamsburg .	8–19	–	–	$32 00	$2,800 00	–	$75 00	$15 00	–	$23,269 00	$1,336 60	$86 84
Worthington .	6–8	–	$25 00	22 00	800 00	$530 00	60 00	10 00	–	1,962 00	120 10	188 98
Total . .	–	–	$44 42	$25 94	$74,261 93	$860 75	$3,598 51	$405 29	$1,200 00	$158,074 89	$10,700 20	$2,126 82

HAMPSHIRE COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Amherst	1	3	107	Part tax.	9	$1,133 33	–	–	–	2	46	$2,450 00	$223 05	$55 00
Belchertown	1	1	45	Taxation,	9–10	800 00	–	–	–	–	–	–	251 29	64 75
Chesterfield	–	–	–	–	–	–	–	–	–	1	18	96 00	216 76	–
Cummington	–	–	–	–	–	–	–	–	–	–	–	–	217 78	–
Easthampton	1	1	52	Taxation,	9–15	900 00	1	225	$13,600 00	–	–	–	222 60	32 00
Enfield	–	–	–	–	–	–	–	–	–	–	–	–	220 86	–
Goshen	–	–	–	–	–	–	–	–	–	–	–	–	207 64	18 00
Granby	1	1	37	Taxation,	8	400 00	–	–	–	–	–	–	216 07	30 00
Greenwich	–	–	–	–	–	–	–	–	–	–	–	–	208 89	23 58
Hadley	1	2	49	Not by tax,	10	1,000 00	1	49	–	1	14	1,500 00	198 21	–
Hatfield	–	–	–	–	–	–	1	50	331 48	–	–	–	185 67	–
Huntington	–	–	–	–	–	–	–	–	–	2	37	184 00	222 11	18 00
Middlefield	–	–	–	–	–	–	–	–	–	1	30	168 00	216 30	–
Northampton	2	5	187	Taxation,	10	1,670 00	–	–	–	3	75	1,000 00	242 43	–
Pelham	–	–	–	–	–	–	–	–	–	–	–	–	213 22	–
Plainfield	–	–	–	–	–	–	–	–	–	–	–	–	208 32	–
Prescott	–	–	–	–	–	–	–	–	–	–	–	–	211 51	–
South Hadley	2	4	94	Taxation,	9–5	1,300 00 1,100 00	1	225*	2,500 00*	–	–	–	220 43	100 00
Southampton	1	1	30	Taxation,	6	220 00	–	–	–	–	–	–	221 66	–
Ware	1	2	58	Taxation,	9–10	1,000 00	–	–	–	–	–	–	258 28	–
Westhampton	–	–	–	–	–	–	–	–	–	1	12	230 00	214 48	–

Williamsburg . .	–	–	–	–	–	–	–	–	–	1	15	–	$252 88	–
Worthington . .	–	–	–	–	–	–	–	–	–	1	22	$100 00	216 64	–
Total . .	11	20	659	–	–	$9,523 33	4	549	$16,431 48	13	269	$5,728 00	$5,067 08	$341 33

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* By returns of *last* year, 1876–77.

MIDDLESEX COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls.		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Acton . .	1,708	$1,228,115 00	9	–	–	320	247	4	25	289	3	12	2	1	70
Arlington .	3,906	5,487,695 00	18	$7,773 81	$644 91	907	680	–	107	823	4	18	3	3	182–10
Ashby . .	962	481,960 00	8	–	68 68	183	122	5	14	145	1	11	1	1	48
Ashland . .	2,211	1,294,672 00	12	–	74 64	512	332	5	27	444	1	12	2	2	95–15
Ayer . .	1,872	997,345 00	8	–	20 00	439	323	7	44	354	2	7	1	1	64–3
Bedford . .	900	840,193 00	6	–	50 00	166	123	4	25	168	2	6	1	–	54
Belmont . .	1,937	3,317,055 00	8	–	259 70	414	335	4	36	411	1	12	5	–	80
Billerica . .	1,881	1,588,770 00	10	–	67 93	388	263	7	27	338	–	10	2	2	90–4
Boxborough .	318	243,235 00	4	–	–	65	50	2	17	50	–	8	–	1	28
Burlington .	650	482,832 00	5	–	16 14	113	89	5	17	105	1	6	–	–	39–10
Cambridge .	47,838	55,755,050 00	29	–	8,666 77	9,521	6,557	–	605	8,218*	15	171	80	77	290
Carlisle . .	548	359,528 00	5	–	537 00	89	65	2	18	71	1	7	3	3	31–10
Chelmsford .	2,372	1,442,613 00	13	1,390 37	196 94	571	372	9	68	519	1	16	7	5	104–15
Concord . .	2,676	2,765,728 00	13	–	535 56	477	395	1	57	476	1	20	5	3	136–10
Dracut . .	1,116	934,650 00	10	1,374 00	105 78	281	162	3	22	195	2	13	4	4	80
Dunstable .	452	283,776 00	5	–	8 00	90	66	2	23	66	1	8	–	–	33
Everett . .	3,651	4,542,550 00	14	2,500 00	250 00	691	515	–	45	724	2	13	3	3	140
Framingham .	5,167	4,608,880 00	23	1,200 00	600 00	1,140	822	6	102	977	3	33	20	19	201–10
Groton . .	1,908	2,079,411 00	14	–	–	465	275	9	67	390	8	14	5	5	108–8
Holliston .	3,399	1,859,345 00	16	–	1,038 93	693	482	3	84	567	2	20	2	2	135–5
Hopkinton .	4,503	2,228,897 00	23	–	271 99	1,176	844	20	90	1,090	2	27	4	4	188–17
Hudson . .	3,493	1,815,513 00	13	–	1,343 67	806	662	7	77	705	1	21	6	3	109
Lexington .	2,505	2,704,771 00	11	–	713 60	455	360	4	54	472	4	13	2	1	110

Lincoln . .	834	$783,610 00	5	–	–	155	111	4	22	150	–	5	–	–	44–10
Littleton . .	950	725,910 00	8	–	$277 60	235	184	3	57	187	–	12	–	–	56
Lowell . .	49,688	39,407,732 00	76	$13,610 88	5,131 27	8,089	5,357	–	682	7,540	13	143	49	33	710–8
Malden . .	10,843	10,085,890 00	40	–	3,328 91	2,599	2,054	–	207	2,080	4	55	20	15	400
Marlborough .	8,424	3,439,925 00	32	–	534 11	2,047	1,497	10	134	1,936	5	39	9	7	264
Maynard .	1,965	1,288,085 00	8	3,579 41	–	483	291	4	19	436	1	11	5	4	66
Medford . .	6,267	7,984,256 00	20	–	1,195 00	1,246	986	–	121	1,181	7	24	4	3	200
Melrose . .	3,990	4,195,244 00	15	–	1,312 46	905	724	–	119	718	1	19	7	7	146
Natick . .	7,419	3,487,500 00	31	16,663 56	1,805 32	1,586	1,290	–	75	1,672	3	36	19	19	272–10
Newton . .	16,105	26,634,513 00	65	–	4,121 51	3,382	2,454	5	380	2,881	12	74	15	30	650
North Reading,	979	444,113 00	6	–	145 00	176	127	2	16	158	–	6	4	4	50–10
Pepperell .	1,927	1,263,680 00	11	–	80 81	365	261	4	77	354	6	10	4	4	72
Reading . .	3,186	2,360,437 00	14	–	403 89	550	457	10	117	454	2	16	2	2	136–10
Sherborn .	999	914,460 00	6	–	98 05	174	120	1	7	184	–	8	1	1	53
Shirley . .	1,352	767,709 00	7	–	719 08	196	159	3	33	165	4	6	2	–	54
Somerville .	21,868	25,479,400 00	78	–	6,047 99	4,906	3,549	–	309	4,157	9	79	–	15	780
Stoneham .	4,984	3,147,010 00	19	–	3,835 00	1,025	747	4	115	909	2	22	3	3	172–3
Stow . .	1,022	746,530 00	6	–	153 33	216	163	5	34	187	–	6	2	–	53
Sudbury . .	1,177	1,009,835 00	8	–	180 25	258	183	4	36	207	–	9	3	1	63–10
Tewksbury .	1,997	824,754 00	7	–	614 21	207	138	3	14	201	–	11	4	3	64–5
Townsend .	2,196	999,820 00	14	–	25 00	396	309	7	59	346	3	15	–	3	84
Tyngsborough,	665	302,268 00	8	–	171 69	141	121	7	24	91	2	9	2	1	50–10
Wakefield .	5,349	3,964,680 00	18	–	200 00	921	866	–	83	1,018	2	24	2	2	180
Waltham .	9,967	9,457,168 00	35	–	884 74	2,043	1,523	3	216	1,955	8	48	6	6	338–6
Watertown .	5,099	7,446,450 00	16	–	1,960 46	875	723	–	94	850	8	23	4	4	159–18
Wayland .	1,766	1,144,273 00	9	–	325 00	346	314	2	21	340	3	12	2	1	76–10
Westford .	1,933	1,056,165 00	11	–	232 99	369	244	10	19	300	4	11	–	2	88
Weston . .	1,282	1,563,500 00	7	9,000 00	26 80	226	167	2	24	201	2	7	2	2	59–15
Wilmington .	879	567,431 00	6	–	–	172	143	2	12	165	–	7	2	2	52
Winchester .	3,099	3,760,318 00	13	–	1,500 00	638	506	7	84	563	5	20	1	–	119
Woburn . .	9,568	8,674,522 00	38	–	1,518 30	2,127	1,726	–	137	2,112	5	37	3	3	361–5
Total . .	284,112	$271,269,772 00	914	$57,092 03	$52,299 01	57,016	41,635	211	4,998	51,325	169	1,282	335	317	9–2

* By Census of May, 1876.

MIDDLESEX COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Acton . .	7–15	1	$46 66	$35 90	$2,500 00	–	$90 00	$30 00	$90 00	–	–	$171 86
Arlington .	10–5	–	141 46	52 84	21,000 00	–	–	–	–	$5,384 00	$321 24	–
Ashby . .	6	–	30 00	28 70	1,300 00	–	50 00	10 00	50 00	–	–	114 57
Ashland . .	7–19	–	100 00	33 45	4,000 00	–	130 65	32 50	–	–	–	395 70
Ayer . .	8	–	70 00	37 66	3,200 00	–	100 00	32 50	–	–	–	–
Bedford . .	9	–	48 00	34 40	2,000 00	–	50 00	20 00	–	–	–	–
Belmont . .	10	–	160 00	44 92	8,000 00	–	287 50	45 00	–	–	–	–
Billerica . .	9	–	–	33 60	3,000 00	$22 50	210 00	45 00	–	21,000 00	1,260 00	–
Boxborough .	7	–	–	31 43	743 07	–	48 94	13 00	48 94	–	–	34 07
Burlington .	7–18	1	60 00	28 00	1,000 00	–	50 00	13 00	–	–	–	–
Cambridge .	10	–	225 57	68 21	160,691 48	–	3,125 00	400 00	2,800 00	10,000 00	846 34	–
Carlisle . .	6–6	–	28 00	28 00	800 00	–	50 00	25 00	50 00	500 00	30 00	76 45
Chelmsford .	8–8	1	90 00	51 50	5,500 00	–	250 00	53 55	250 00	–	–	228 78
Concord . .	9–15	–	150 00	44 34	8,775 00	–	225 00	50 00	150 00	1,300 00	–	–
Dracut . .	8	1	36 00	32 73	2,400 00	–	150 00	35 00	–	–	–	175 83
Dunstable .	6–12	–	28 00	24 00	800 00	–	25 00	13 00	–	–	–	43 52
Everett . .	10	–	120 00	44 34	10,000 00	–	150 00	–	–	179 44	–	376 65
Framingham .	8–17	–	141 65	43 40	13,750 00	–	700 00	100 00	700 00	1,258 94	75 54	761 52
Groton . .	7–14	–	43 80	35 55	5,000 00	–	200 00	50 00	–	37,620 00	2,287 20	–
Holliston . .	8–9	1	100 00	33 33	6,300 00	–	300 00	32 25	300 00	–	–	219 06
Hopkinton .	8–4	–	120 70	38 48	9,000 00	–	340 00	60 00	–	5,365 20	300 00	438 90
Hudson . .	8–8	–	117 00	39 76	6,850 00	–	285 00	30 00	–	–	–	145 92
Lexington .	10	–	110 00	47 77	9,700 00	–	300 00	29 70	–	–	–	–

Lincoln	8–18	–	–	$43 20	$2,000 00	–	$25 00	$17 00	–	$1,209 21	$65 54	–
Littleton	8	–	–	35 27	2,019 33	–	70 00	37 00	–	2,379 83	142 79	$108 25
Lowell	10	–	$166 78	57 58	112,565 00	–	2,300 00	497 95	2,300 00	–	–	–
Malden	10	–	145 00	51 31	35,500 00	–	1,220 00	22 50	1,800 00	–	–	–
Marlborough	8-5	–	98 04	40 97	15,800 00	–	400 00	87 75	–	2,800 00	90 00	–
Maynard	8-5	–	75 00	39 58	3,200 00	–	100 00	–	–	–	–	126 67
Medford	10	–	153 00	53 00	24,478 00	–	1,450 00	70 00	1,100 00	–	–	–
Melrose	9–14	–	168 00	57 71	12,500 00	–	316 66	12 00	–	–	–	–
Natick	8-16	–	110 91	36 88	16,000 00	–	389 86	44 00	–	–	–	–
Newton	10	–	171 87	65 45	67,989 35	–	2,700 00	401 30	2,700 00	–	–	1,308 72
North Reading	8–9	–	–	35 33	1,800 00	–	114 39	12 00	–	–	–	–
Pepperell	7	1	37 27	28 24	2,600 00	–	155 90	19 20	–	–	–	–
Reading	9–15	–	92 92	40 25	8,500 00	–	258 00	50 00	–	–	–	–
Sherborn	8–16	–	–	34 22	2,000 00	–	189 25	45 00	–	20,000 00	1,200 00	64 61
Shirley	7–15	–	53 64	34 70	1,800 00	–	139 40	17 20	–	9,855 39	–	153 00
Somerville	10	–	174 44	65 95	74,260 00	–	2,000 00	115 00	2,000 00	–	–	–
Stoneham	9–14	–	153 50	46 12	13,900 00	–	400 00	51 50	–	–	–	–
Stow	8–18	–	–	37 73	1,600 00	–	100 00	25 00	100 00	8,600 00	552 00	103 79
Sudbury	8	–	–	38 00	2,400 00	$2 00	190 00	15 00	–	300 00	18 00	104 00
Tewksbury	9–5	–	–	33 59	2,000 00	–	150 00	25 00	–	–	–	155 68
Townsend	6	–	40 00	28 00	3,250 00	150 00	135 00	25 00	–	–	–	–
Tyngsborough	5–10	2	52 50	24 26	1,125 00	–	41 40	13 50	–	3,302 50	151 31	53 01
Wakefield	10	–	100 00	41 00	11,000 00	–	200 00	65 00	–	–	–	–
Waltham	9–13	–	144 00	51 51	28,432 72	–	650 00	45 00	–	–	–	415 25
Watertown	9–9	–	118 84	50 85	16,105 41	35 00	250 00	20 00	–	–	–	–
Wayland	8–10	–	80 00	36 00	3,750 00	–	150 00	15 00	–	200 00	12 00	139 65
Westford	8	–	33.08	33 24	3,000 00	–	150 00	46 00	–	32,500 00	1,700 00	–
Weston	8–10	–	62 96	37 03	3,641 37	–	150 00	–	–	–	–	–
Wilmington	8–15	–	–	32 33	1,550 00	–	63 00	18 00	–	–	–	82 65
Winchester	9–3	–	160 00	43 90	12,000 00	–	450 00	22 00	–	–	–	–
Woburn	9–10	–	110 00	45 95	26,992 83	–	1,800 00	44 77	1,800 00	12,000 00	840 00	–
	–	8	101 56	40 58	$800,068 56	$209 50	$23,824 95	$2,998 17	$16,238 94	$175,754 51	$9,891 96	$5,998 11

MIDDLESEX COUNTY — Concluded.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Acton	–	–	–	–	–	–	–	–	–	–	–	–	$183 73	–
Arlington	1	3	77	Taxation,	10–4	$1,750 00	–	–	–	–	–	–	87 99	–
Ashby	–	–	–	–	–	–	–	–	–	1	78	–	217 44	$12 00
Ashland	1	1	44	Taxation,	10–10	1,000 00	–	–	–	–	–	–	196 27	–
Ayer	1	1	54	Taxation,	10	1,000 00	–	–	–	–	–	–	242 74	–
Bedford	–	–	–	–	–	–	–	–	–	–	–	–	219 04	–
Belmont	1	2	53	Taxation,	10	1,600 00	–	–	–	1	6	–	145 82	–
Billerica	–	–	–	–	–	–	1	56	$270 00	–	–	–	191 37	21 45
Boxborough	–	–	–	–	–	–	–	–	–	–	–	–	205 93	–
Burlington	–	–	–	–	–	–	–	–	–	–	–	–	211 29	10 00
Cambridge	1	13	657	Taxation,	10	3,560 00	–	–	–	17	1,269	$21,750 00	–	–
Carlisle	–	–	–	–	–	–	–	–	–	–	–	–	208 55	–
Chelmsford	2	4	55	Taxation,	9	1,464 00*	–	–	–	–	–	–	207 32	12 27
Concord	1	2	63	Taxation,	10	1,500 00	–	–	–	2	–	–	200 95	25 00
Dracut	–	–	–	–	–	–	–	–	–	1	7	35 00	222 12	60 00
Dunstable	–	–	–	–	–	–	–	–	–	–	–	–	209 12	–
Everett	1	2	53	Taxation,	10	1,400 00	–	–	–	1	–	1,000 00	179 44	204 42
Framingham	2	5	133	Taxation,	10	2,700 00*	–	–	–	–	–	–	206 91	103 05
Groton	–	–	–	–	–	–	1	90	1,300 00	–	–	–	197 30	49 32
Holliston	1	2	94	Taxation,	9–15	975 00	–	–	–	–	–	–	213 59	–
Hopkinton	1	2	71	Taxation,	9	1,300 00	–	–	–	3	26	300 00	269 33	–
Hudson	1	2	77	Taxation,	10	1,170 00	–	–	–	–	–	–	235 25	–
Lexington	1	2	67	Taxation,	10	1,500 00	–	–	–	1	20	1,000 00	206 87	35 81

Lincoln . .	1	1	31	Taxation,	8–15	610 50	–	–	–	–	–	–	215 50	–
Littleton . .	1	1	25	Not by tax.	3	150 00	–	–	–	–	–	–	219 84	–
Lowell . .	1	10	462	Taxation,	10	2,395 00	1	70	860 00	3	650	3,200 00	–	–
Malden . .	1	6	175	Taxation,	10	2,000 00	–	–	–	3	60	900 00	–	–
Marlborough .	1	3	120	Taxation,	9	1,620 00	–	–	–	2	40	288 00	320 20	–
Maynard . .	1	1	62	Taxation,	9	675 00	–	–	–	–	–	–	192 40	25 00
Medford . .	1	3	123	Taxation,	10	2,200 00	–	–	–	1	20	300 00	137 33	115 00
Melrose . .	1	3	117	Taxation,	10	1,680 00	–	–	–	–	–	–	192 89	–
Natick . .	1	2	83	Taxation,	10	1,100 00	–	–	–	1	24	396 00	279 39	100 00
Newton . .	1	8	261	Taxation,	10	2,700 00	2	177	10,700 00	6	88	3,978 00	–	–
North Reading .	1	1	31	Taxation,	8–10	340 00	–	–	–	–	–	–	217 78	10 00
Pepperell . .	1	1	53	Taxation,	7–10	500 00	–	–	–	–	–	–	188 75	–
Reading . .	1	2	114	Taxation,	9–15	1,500 00	–	–	–	2	15	200 00	204 94	–
Sherborn . .	–	–	–	–	–	–	1	35	86 00	–	–	–	218 47	51 75
Shirley . .	–	–	–	–	–	–	–	–	–	–	–	–	225 65	115 71
Somerville .	1	7	302	Taxation,	10	2,400 00	–	–	–	–	–	–	–	–
Stoneham . .	1	3	96	Taxation,	10	1,535 00	–	–	–	1	27	350 00	204 63	51 00
Stow . . .	1	1	54	Part tax .	8	480 00	–	–	–	–	–	–	221 09	–
Sudbury . .	–	–	–	–	–	–	–	–	–	–	–	–	172 69	28 05
Tewksbury .	–	–	–	–	–	–	–	–	–	–	–	–	222 80	49 27
Townsend . .	1	1	38	Taxation,	9	550 00	–	–	–	–	–	–	243 77	–
Tyngsborough .	–	–	–	–	–	–	–	–	–	1	26	50 00	212 42	–
Wakefield . .	1	2	78	Taxation,	10	1,500 00	–	–	–	–	–	–	220 01	104 00
Waltham . .	1	4	145	Taxation,	9–15	2,000 00	1	58	2,800 00	2	31	800 00	203 55	–
Watertown .	1	3	70	Taxation,	10–8	1,850 00	–	–	–	2	15	500 00	99 37	99 27
Wayland . .	–	–	–	–	–	–	–	–	–	–	–	–	184 65	–
Westford . .	–	–	–	–	–	–	1	68	744 00	1	12	67 20	184 76	–
Weston . .	1	3	57	Taxation,	9	1,100 00	–	–	–	–	–	–	172 91	–
Wilmington .	1	1	32	Taxation,	9–5	444 00	–	–	–	–	–	–	218 92	24 00
Winchester .	1	3	85	Taxation,	10	1,700 00	–	–	–	3	35	1,200 00	158 35	100 00
Woburn . .	1	4	123	Taxation,	10	1,900 00	1	20	1,500 00	3	75	500 00	250 53	–
Total . .	39	115	4,235	–	–	$53,848 50	9	574	$18,260 00	58	2,524	$36,814 20	$10,041 86	1,406 37

* Salary of both.

NANTUCKET COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls.		Number of Teachers from Normal Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	A ten.	Grad.	
Nantucket .	3,201	$2,431,890 00	11	–	$307 83	456	414	–	25	643	1	10	1	1	107–10
NORFOLK COUNTY.															
Bellingham .	1,247	$520,407 00	8	–	$27 49	257	191	7	19	235	–	11	1	–	64
Braintree .	4,156	2,896,100 00	16	–	–	677	538	7	51	704	1	19	5	5	160
Brookline .	6,675	24,914,000 00	29	–	781 00	1,331	1,020	–	147	1,329	4	32	19	–	290
Canton . .	4,192	3,101,079 00	17	–	662 00	906	659	10	57	905	4	15	3	3	163–4
Cohasset .	2,197	2,416,948 00	12	–	409 27	437	320	–	21	453	2	11	1	1	120
Dedham . .	5,756	5,645,338 00	29	–	1,106 00	1,050	927	–	89	1,165	5	29	6	–	280
Dover . .	650	443,283 00	4	–	10 00	121	84	3	15	104	2	4	2	2	36
Foxborough .	3,168	1.569,727 00	12	–	291 63	552	402	–	58	494	3	14	–	–	113–5
Franklin .	2,983	1,503,765 00	14	–	311 11	742	482	5	75	603	2	20	8	8	124
Holbrook .	1,726	954,985 00	9	–	800 00	395	327	4	17	367	1	13	4	2	85
Hyde Park .	6,316	5,707,632 00	24	–	–	1,245	980	–	87	1,305	8	22	4	–	240
Medfield . .	1,163	1,021,487 00	5	–	302 88	192	138	1	20	206	1	6	3	3	47–10
Medway . .	4,242	1,922,580 00	18	–	742 00	957	669	12	77	814	4	22	10	6	142–15
Milton . .	2,738	8,832,000 00	13	$6,000 00	8,000 00	500	475	10	37	485	6	14	7	7	130
Needham .	4,548	4,608,942 00	24	–	2,119 11	893	667	21	33	887	1	31	10	9	228–10
Norfolk . .	920	445,845 00	5	–	–	196	133	2	16	172	–	8	1	1	41–5
Norwood .	1,749	1,859,877 00	9	–	145 69	463	341	1	49	416	1	10	6	–	86–18

Quincy . .	9,155	$7,563,100 00	37	–	$1,625 25	1,868	1,426	–	107	1,829	9	45	29	–	370
Randolph .	4,064	2,125,875 00	17	–	1,038 40	796	623	13	88	765	4	18	4	3	170–10
Sharon . .	1,330	1,035,377 00	7	$1,654 20	114 84	285	170	2	40	274	2	8	2	1	56–10
Stoughton .	4,842	2,405,200 00	22	–	771 18	1,078	829	20	87	985	5	20	3	2	188
Walpole . .	2,290	1,349,692 00	10	–	320 85	427	288	6	46	309	1	17	1	–	97–10
Weymouth .	9,819	5,573,851 00	43	9,350 96	1,799 85	2,147	1,625	8	162	1,960	7	47	5	4	415–11
Wrentham .	2,395	1,172,667 00	13	–	247 48	451	362	6	61	414	6	12	–	–	101–7
Total . .	88,321	$89,619,757 00	397	$17,005 16	$21,626 03	17,966	13,676	138	1,459	17,180	79	448	134	57	9–9

NANTUCKET COUNTY—Continued.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Nantucket .	9–15	–	$114 28	$30 70	$6,250 00	–	$150 00	$19 00	–	$37,700 00	$2,682 00	–

NORFOLK COUNTY—Continued.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Bellingham .	8	–	–	$32 21	1,800 00	–	85 00	$19 40	$85 00	$418 16	$25 09	$260 77
Braintree .	10	–	$140 00	36 37	7,350 00	–	300 00	54 00	–	4,500 00	350 00	385 96
Brookline .	10	–	205 50	72 00	37,000 00	–	–	–	–	–	–	–
Canton .	9–12	–	93 33	40 93	11,000 00	$40 00	500 00	47 50	500 00	–	–	526 23
Cohasset .	10	–	50 50	37 13	5,000 00	–	266 50	35 00	200 00	1,000 00	40 40	216 38
Dedham .	10	–	119 00	45 86	20,500 74	–	500 00	60 00	–	1,100 00	66 00	–
Dover .	9	–	32 00	32 00	1,100 00	17 00	30 00	15 00	–	–	–	99 01
Foxborough .	9–9	–	93 72	35 81	6,000 00	–	215 00	30 00	–	–	–	–
Franklin .	8–17	–	70 00	37 76	6,000 00	–	436 00	50 00	–	100,000 00	6,000 00	–
Holbrook .	9–15	–	100 00	37 50	5,000 00	–	220 00	–	–	–	–	–
Hyde Park .	10	–	111 66	45 57	18,900 00	–	–	–	–	–	–	–
Medfield .	9–10	–	88 88	36 00	2,682 60	–	75 00	10 00	–	3,760 20	262 85	–
Medway .	7–9	1	100 00	35 43	7,500 00	–	302 00	38 00	–	100 00	6 00	360 42
Milton .	10	–	125 00	51 25	13,000 00	–	300 00	75 00	–	–	–	–
Needham .	9–10	–	136 33	56 45	14,500 00	–	440 00	–	–	1,000 00	–	387 12
Norfolk .	8–5	–	–	39 03	1,600 00	–	–	25 00	–	–	–	108 91
Norwood .	9–13	–	130 00	44 50	6,500 00	–	120 00	–	–	–	–	–

Quincy . .	10	–	114 00	45 25	25,500 00	–	2,000 00	–	$2,000 00	–	$75 00	–
Randolph . .	9–10	–	110 28	43 12	9,550 00	–	373 75	–	–	$12,700 00	885 00	–
Sharon . .	8–1	–	57 86	33 27	2,000 00	–	125 00	50 00	–	2,360 00	126 70	130 70
Stoughton .	8–11	–	77 67	35 55	10,101 67	–	400 00	35 00	400 00	–	–	–
Walpole . .	9–15	–	129 77	31 61	5,000 00	$50 00	173 50	–	–	–	–	–
Weymouth .	9–16	–	103 56	36 69	23,800 00	–	1,367 09	115 15	727 50	9,908 32	502 00	1,367 28
Wrentham .	7–16	–	70 92	34 79	5,500 00	–	402 04	75 00	–	1,818 26	109 08	280 33
Total . .	–	1	$102 72	$40 67	$246,885 01	$107 00	$8,630 88	$734 05	$3,912 50	$138,664 94	$8,448 12	$4,123 11

NANTUCKET COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Nantucket.	1	2	72	Taxation,	10–10	$1,200 00	1	90	$900 00	–	–	–	$218 85	–

NORFOLK COUNTY — CONCLUDED.

Bellingham	–	–	–	–	–	–	–	–	–	–	–	–	$224 61	–
Braintree	1	2	59	Taxation,	10	$1,400 00	–	–	–	2	141	$975 00	234 45	–
Brookline	1	5	132	Taxation,	10	2,700 00	–	–	–	4	123	6,150 00	–	–
Canton	1	2	50	Taxation,	10	1,200 00	–	–	–	1	7	130 00	207 59	–
Cohasset	1	2	79	Taxation,	10	1,000 00	–	–	–	–	–	–	202 20	$58 90
Dedham	1	3	92	Taxation,	10	1,800 00	–	–	–	3	50	–	129 13	20 00
Dover	–	–	–	–	–	–	–	–	–	–	–	–	213 68	35 00
Foxborough	1	2	44	Taxation,	10	1,200 00	–	–	–	–	–	–	206 75	–
Franklin	1	2	46	Taxation,	10	1,000 00	1	116	$3,041 00	1	17	76 00	214 96	53 50
Holbrook	1	1	36	Taxation,	9–15	1,000 00	–	–	–	–	–	–	243 08	–
Hyde Park	1	3	124	Taxation,	10	1,600 00	–	–	–	1	10	175 00	139 96	–
Medfield	1	1	58	Taxation,	9–10	844 36	–	–	–	–	–	–	167 56	23 00
Medway	1	1	43	Taxation,	9	900 00	–	–	–	2	40	50 00	245 06	–
Milton	1	2	37	Taxation,	10	1,500 00	–	–	–	2	25	1,200 00	47 87	47 87
Needham	2	2	84	Taxation,	10	1,200 00 1,400 00	–	–	–	–	–	–	195 85	–
Norfolk	–	–	–	–	–	–	–	–	–	–	–	–	221 43	–

Norwood . .	–	–	–	–	–	–	–	–	–	1	15	$350 00	$195 48	–
Quincy . .	1	2	112	Taxation,	10	$1,400 00	1	132	$5,000 00	1	50	2,000 00	190 34	–
Randolph . .	1	2	73	Part tax .	9–10	1,200 00	–	–	–	1	20	160 00	242 32	–
Sharon . .	1	1	36	Taxation,	2–15*	675 00	–	–	–	1	20	400 00	181 92	–
Stoughton . .	1	2	82	Taxation,	9	1,200 00	–	–	–	–	–	–	268 78	$38 60
Walpole . .	1	2	63	Taxation,	9–15	1,265 37	–	–	–	–	–	–	187 38	–
Weymouth .	2	4	171	Taxation,	9–16	1,250 00 1,250 00	–	–	–	3	58	750 00	225 78	81 00
Wrentham .	1	2	53	Taxation,	9	800 00	–	–	–	–	–	–	196 62	–
Total . .	22	43	1,474	–	–	$27,784 73	2	248	$8,041 00	23	576	$12,416 00	$4,582 80	$357 87

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* Opened January, 1878.

PLYMOUTH COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls. Ma.	No. of different persons employed as Teachers in Pub. Sch'ls. Fem.	Number of Teachers from Nor. Schools. Atten.	Number of Teachers from Nor. Schools. Grad.	Agg'te length of Public Schools for the year, in months and days.
Abington .	3,241	$1,783,155 00	16	–	$401 34	690	559	3	40	639	4	17	3	3	145
Bridgewater .	3,969	2,026,308 00	18	–	75 00	772	590	17	68	723	6	19	20	19	162
Brockton .	10,578	5,784,622 00	38	$2,700 00	–	2,302	1,647	1	211	2,140	7	40	18	15	354
Carver . .	1,127	544,160 00	6	–	52 60	200	150	2	23	202	3	5	1	–	53–15
Duxbury .	2,245	1,050,175 00	11	–	230 00	349	293	5	47	376	1	14	2	2	96–16
E. Bridgewater,	2,808	1,227,370 00	13	741 46	–	474	416	13	65	438	3	22	–	12	112
Halifax . .	568	304,470 00	4	–	207 15	80	59	4	4	77	–	6	1	1	34
Hanover . .	1,801	1,002,441 00	9	–	500 00	334	231	8	24	340	3	13	3	3	79
Hanson . .	1,265	499,749 00	7	–	437 78	237	156	8	19	215	3	8	1	1	58–19
Hingham .	4,654	3,255,489 00	16	–	685 50	790	555	6	78	780	6	13	8	4	160
Hull . .	316	750,865 00	2	–	–	62	47	1	5	46	–	3	–	–	17
Kingston .	1,569	1,398,831 00	7	221 19	–	266	216	4	56	232	1	7	3	–	64–15
Lakeville .	1,061	516,510 00	11	–	50 00	187	150	6	18	210	1	13	3	3	82–10
Marion . .	862	437,450 00	6	–	149 84	188	134	4	34	145	2	4	1	1	35–5
Marshfield .	1,817	982,911 00	10	–	357 00	297	228	2	46	220	2	13	2	2	90
Mattapoisett .	1,361	1,488,197 00	8	102 78	187 90	216	163	1	6	185	4	6	–	–	64–10
Middleborough,	5,023	2,524,375 00	23	992 00	792 00	910	691	9	70	900	3	29	4	4	204
Pembroke .	1,399	569,581 00	8	–	1,511 30	245	166	3	26	234	–	9	–	–	71–15
Plymouth .	6,370	4,091,114 00	30	–	800 00	1,025	977	–	70	1,051	4	26	–	6	290
Plympton .	755	301,286 00	4	–	18 00	130	96	–	21	164	1	3	–	–	35
Rochester .	1,001	473,863 00	6	–	21 02	212	127	6	22	191	1	10	1	2	46
Rockland .	4,203	1,946,805 00	18	–	350 00	968	808	8	92	928	4	29	3	1	166
Scituate . .	2,463	1,296,510 00	13	–	208 00	524	390	13	34	490	1	15	3	2	116–15

So. Abington .	2,456	1,463,820 00	9	–	500 00	455	369	–	25	430	1	10	3	3	81
So. Scituate .	1,818	865,463 00	10	1,254 21	208 79	356	250	3	27	336	4	9	4	4	92
Wareham .	2,874	1,034,211 00	15	–	603 49	611	474	25	33	623	3	16	2	1	122–1
W. Bridgewat'r,	1,738	880,981 00	9	–	212 01	340	256	4	24	329	4	11	10	8	72
Total . .	69,362	$38,500,712 00	327	$6,011 64	$8,567 72	13,250	10,198	156	1,188	12,644	72	370	96	97	8–18

SUFFOLK COUNTY.

Boston . .	341,919	$686,840,587 00	473	$125,539 04	$130,056 77	54,098	43,466	–	4,337	58,034	141	952	–	490	4,778
Chelsea . .	20,737	16,410,612 00	61	–	280 00	3,919	2,942	–	323	3,169	3	64	17	16	610
Revere . .	1,603	2,109,000 00	6	–	86 50	324	228	–	–	315	3	5	2	1	59–5
Winthrop .	627	976,323 00	4	–	200 00	152	102	–	14	133	1	4	2	2	39
Total . .	364,886	$706,336,522 00	544	$125,539 04	$130,623 27	58,493	46,738	–	4,674	61,651	148	1,025	21	509	10–2

PLYMOUTH COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Abington . .	9–1	–	$110 00	$34 00	$7,000 00	–	$375 00	$125 00	–	–	–	$281 86
Bridgewater .	9	–	87 00	33 33	8,200 00	$500 00	328 00	30 00	–	$4,300 00	$116 00	340 00
Brockton . .	9–11	–	69 65	34 50	25,821 00	–	407 68	127 00	–	295 50	17 73	418 60
Carver . .	8–19	–	36 90	34 27	1,200 00	–	46 00	16 60	–	2,578 00	106 00	133 28
Duxbury . .	8–16	–	100 00	33 50	3,000 00	–	200 00	31 00	–	24,600 00	1,632 00	209 94
E. Bridgewater,	8–12	–	65 33	31 29	5,000 00	–	273 55	104 60	–	–	–	194 08
Halifax . .	8–10	–	–	26 00	800 00	–	40 00	41 00	–	–	–	–
Hanover . .	8–16	–	80 00	28 25	2,750 00	–	120 00	25 00	–	2,866 00	172 00	133 00
Hanson . .	8–8	–	48 00	24 00	1,600 00	–	75 00	5 00	–	–	–	102 45
Hingham . .	10	–	76 00	40 00	11,100 87	–	450 00	–	$450 00	30,300 00	2,280 00	–
Hull . .	8–10	–	–	40 00	750 00	–	31 50	8 25	–	–	–	–
Kingston . .	9–5	–	140 00	36 00	3,200 00	–	250 00	12 00	250 00	–	–	–
Lakeville . .	8	–	27 50	26 50	2,100 00	–	100 00	25 00	–	–	–	–
Marion . .	5–18	1	38 00	27 00	1,000 00	–	60 00	–	60 00	–	–	73 51
Marshfield .	9	–	34 00	29 03	2,800 00	–	72 00	20 00	–	–	–	171 87
Mattapoisett .	8–1	–	45 00	27 00	2,100 00	–	64 62	14 00	–	13,652 00	1,262 98	77 30
Middleborough,	8–18	–	89 80	31 18	9,000 00	–	330 50	25 00	–	35,000 00	2,250 00	–
Pembroke .	8–19	–	–	27 25	2,000 00	–	150 00	15 00	–	–	–	158 87
Plymouth . .	9–7	–	105 00	32 00	16,800 00	–	500 00	48 00	–	–	–	–
Plympton . .	8–15	–	34 00	31 55	1,000 00	–	60 00	10 00	60 00	–	–	113 69
Rochester .	7–13	–	30 00	28 00	1,200 00	–	75 00	15 00	–	–	–	113 16
Rockland . .	9–5	–	89 50	39 34	7,000 00	–	213 75	80 00	–	–	–	–
Scituate . .	9	–	73 00	24 75	3,450 00	–	150 00	30 00	–	–	–	161 29

South Abington,	9	–	120 00	33 00	4,000 00	–	308 75	–	–	–	–	223 15
South Scituate .	9–4	–	39 00	29 50	3,000 00	–	110 00	46 00	–	–	–	136 48
Wareham . .	8–3	–	81 66	31 00	5,200 00	–	222 09	25 00	–	–	–	300 89
W. Bridgewater,	8	–	41 00	36 67	2,500 00	–	85 27	20 00	80 00	80,000 00	4,800 00	224 74
Total . .	–	1	$68 76	$31 44	$133,571 87	$500 00	$5,098 71	$898 45	$900 00	$193,591 50	$12,636 71	$3,568 16

SUFFOLK COUNTY—Continued.

Boston . .	10–1	–	$217 95	$64 94	$1,279,705 14	–	$58,035 94	$862 58	$4,500 00	$45,587 46	$1,407 14	$20,482 85
Chelsea . .	10	–	158 66	53 87	57,000 00	–	1,833 34	136 00	1,833 34	–	–	–
Revere . .	9–18	–	84 00	42 00	3,500 00	–	125 00	25 00	–	–	–	–
Winthrop .	9–15	–	48 00	39 00	1,700 00	–	60 00	20 00	–	–	–	58 10
Total . .	–	–	$127 15	$49 95	$1,341,905 14	–	$60,054 28	$1,043 58	$6,333 34	$45,587 46	$1,407 14	$20,540 95

PLYMOUTH COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.							INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	LENGTH. Months.	LENGTH. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Abington . .	2	4	75	Taxation,	10		$2,200 00*	–	–	–	2	18	$150 00	$225 68	$100 00
Bridgewater .	1	3	82	Taxation,	9		1,440 00	–	–	–	–	–	–	231 26	100 00
Brockton . .	1	3	130	Taxation,	10		1,800 00	–	–	–	2	24	250 00	221 22	–
Carver . .	–	–	–	–	–		–	–	–	–	–	–	–	223 26	–
Duxbury . .	1	2	45	Part tax .	10		1,000 00	1	45	–	–	–	–	192 85	57 47
E. Bridgewater .	1	2	72	Taxation,	10		1,200 00	–	–	–	2	34	37 00	200 61	–
Halifax . .	–	–	–	–	–		–	–	–	–	–	–	–	208 89	–
Hanover . .	1	2	52	Taxation,	8–15		720 00	1	40	$400 00	–	–	–	188 29	–
Hanson . .	–	–	–	–	–		–	–	–	–	–	–	–	223 94	–
Hingham . .	1	2	68	Taxation,	10		1,800 00	1	40	2,000 00	2	20	3,000 00	190 27	–
Hull . . .	–	–	–	–	–		–	–	–	–	–	–	–	206 50	–
Kingston . .	1	1	64	Taxation,	9–5		1,295 00	–	–	–	1	10	–	175 31	–
Lakeville . .	–	–	–	–	–		–	–	–	–	–	–	–	223 26	–
Marion . .	1	1	29	Taxation,	3		150 00	–	–	–	1	35	472 00	216 53	–
Marshfield . .	–	–	–	–	–		–	–	–	–	1	20	500 00	233 63	58 16
Mattapoisett .	1	1	52	Part tax .	10		800 00	–	–	–	–	–	–	176 22	–
Middleborough .	1	3	75	Taxation,	9–10		1,300 00	1	50	750 00	2	95	800 00	250 40	–
Pembroke . .	–	–	–	–	–		–	–	–	–	–	–	–	226 68	–
Plymouth . .	1	3	130	Taxation,	10		1,500 00	–	–	–	3	50	150 00	236 30	–
Plympton . .	–	–	–	–	–		–	–	–	–	–	–	–	218 58	31 00
Rochester . .	–	–	–	–	–		–	–	–	–	–	–	–	222 46	–
Rockland . .	1	2	76	Taxation,	10		1,100 00	–	–	–	1	12	36 00	260 32	–
Scituate . .	1	1	46	Taxation,	9		657 00	–	–	–	–	–	–	204 03	–

South Abington,	1	2	50	Taxation,	10	$1,200 00	–	–	–	–	–	–	$202 66	$53 15
South Scituate .	–	–	–	–	–	–	–	–	–	–	–	–	238 28	–
Wareham . .	1	2	89	Taxation,	10	1,150 00	–	–	–	1	35	140 00	219 97	38 62
W. Bridgewater,	–	–	–	–	–	–	–	–	–	–	–	–	237 83	–
Total . .	17	34	1,135	–	–	$19,312 00	4	175	$3,150 00	18	353	$5,535 00	$5,855 23	$438 40

SUFFOLK COUNTY — CONCLUDED.

Boston . .	10	90	2,140	Taxation,	10	$40,000 00†	23	5,230	$77,868 00	91	3,684	$175,952 00	–	–
Chelsea . .	1	6	202	Taxation,	10	2,400 00	–	–	–	4	418	7,400 00	–	–
Revere . .	–	–	–	–	–	–	–	–	–	–	–	–	$185 78	–
Winthrop . .	–	–	–	–	–	–	–	–	–	–	–	–	213 34	$30 00
Total . .	11	96	2,342	–	–	$42,400 00	23	5,230	$77,868 00	95	4,102	$183,352 00	$399 12	$30 00

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* $1,100 each.

† $4,000 each.

WORCESTER COUNTY.

TOWNS.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.	No. of different persons employed as Teachers in Pub. Sch'ls		Number of Teachers from Nor. Schools.		Agg'te length of Public Schools for the year, in months and days.
											Ma.	Fem.	Atten.	Grad.	
Ashburnham . .	2,141	$984,104 00	13	–	–	464	308	11	85	344	2	13	1	–	85–13
Athol . .	4,134	2,847,645 00	19	–	$127 67	674	533	15	74	559	1	24	6	6	143–5
Auburn . .	1,233	468,049 00	7	–	125 00	265	171	5	35	256	2	9	2	1	48–3
Barre . .	2,460	1,613,040 00	15	–	256 30	428	314	14	38	329	5	17	2	2	108–15
Berlin . .	987	485,488 00	6	–	50 00	232	156	6	48	183	–	8	6	6	38
Blackstone .	4,640	2,059,600 00	19	–	341 33	1,047	707	20	161	972	2	23	–	2	161–17
Bolton . .	987	486,377 00	7	$1,457 50	185 72	234	163	5	45	183	2	10	2	–	50–5
Boylston .	895	525,895 00	7	–	75 00	200	133	10	38	154	2	6	2	–	51–5
Brookfield .	2.660	1,244,769 00	14	–	250 00	540	381	4	42	459	3	17	3	2	110–5
Charlton .	1,852	997,340 00	13	–	100 00	400	312	8	85	327	4	16	1	1	94–10
Clinton . .	6,781	4,195,212 00	22	–	462 34	1,469	1,155	–	59	1,514	1	26	2	2	213–13
Dana . .	760	281,869 00	5	–	31 29	144	103	2	27	109	1	7	–	2	32–5
Douglas . .	2,202	1,004,853 00	13	–	–	477	305	6	41	434	2	15	2	2	109–15
Dudley . .	2,653	896,940 00	12	–	148 02	517	413	4	47	563	5	11	–	–	105
Fitchburg .	12,289	10,668,319 00	49	–	707 86	2,505	1,868	16	273	2,065	6	53	4	2	419
Gardner . .	3,730	2,066,533 00	15	1,150 00	795 31	717	528	–	65	642	3	18	3	3	114
Grafton . .	4,442	1,878,100 00	20	–	715 27	840	610	22	46	783	4	21	2	2	167–10
Hardwick .	1,992	993,930 00	12	–	151 25	474	312	5	38	416	5	16	5	3	73–16
Harvard . .	1,304	919,059 00	10	–	67 00	263	191	6	59	237	3	13	–	1	68–8
Holden . .	2,180	978,635 00	12	–	–	508	329	4	52	482	2	16	3	1	90
Hubbardston .	1,440	865,549 00	11	–	–	318	233	7	73	252	4	15	2	2	68–10
Lancaster .	1,957	2,026,300 00	10	–	75 00	381	267	6	19	281	2	11	3	–	81
Leicester .	2,770	1.778.544 00	14	–	334 44	515	408	9	38	544	2	17	–	–	117–6
Leominster .	5,201	3,775.981 00	19	–	287 14	1.051	722	10	80	824	1	26	2	1	158–2
Lunenburg .	1,153	761,839 00	8	–	88 28	204	148	5	71	177	3	10	2	2	48

Mendon . .	1,176	640,438 00	8	–	18 55	254	200	11	39	227	3	7	1	1	54–13
Milford . .	9,818	4,359,783 00	37	–	744 67	2,139	1,493	11	185	2,193	1	42	15	–	334
Millbury .	4,529	2,209,895 00	16	–	1,000 00	765	606	3	64	919	3	17	–	–	134
New Braintree,	606	471,670 00	5	–	109 99	132	93	1	19	96	1	7	4	3	37–15
Northborough,	1,398	1,200,763 00	7	–	37 00	294	176	4	17	238	1	12	8	8	57–15
Northbridge .	4,030	1,779,905 00	16	–	25 00	880	599	4	57	758	2	17	–	11	144–6
N. Brookfield .	3,749	1,889,239 00	16	–	855 62	930	618	–	112	764	4	20	3	2	116–10
Oakham . .	873	353,508 00	6	–	72 77	184	120	2	31	149	–	8	1	1	35–15
Oxford . .	2,938	1,374,947 00	12	–	413 21	582	363	14	70	498	3	16	1	–	97 15
Paxton . .	600	301,533 00	6	–	43 84	155	114	8	42	118	1	6	–	–	40
Petersham . .	1,203	631,765 00	11	–	153 54	257	166	–	68	187	1	17	2	2	81–10
Phillipston .	666	290,037 00	6	–	–	146	100	2	29	125	2	9	–	–	36
Princeton .	1,063	862,383 00	9	–	979 50	199	178	1	41	174	4	10	–	–	54
Royalston .	1,260	689,482 00	11	–	590 00	258	204	5	51	200	6	10	2	2	66
Rutland . .	1,030	488,642 00	10		125 00	272	194	17	54	201	6	14	–	–	60
Shrewsbury .	1,524	1,130,970 00	9	–	200 00	334	237	6	33	276	1	13	2	2	71–10
Southborough .	1,986	1,295,377 00	10	–	83 00	420	278	7	52	359	2	13	4	3	77–13
Southbridge .	5,740	3,016,980 00	24	–	350 00	1,402	845	11	41	1,397	3	27	1	–	200–5
Spencer . .	5,451	2,764,264 00	22	–	944 21	1,140	812	4	92	1,190	7	28	6	3	184–5
Sterling . .	1,569	1,021,343 00	12	–	90 32	338	222	6	51	278	4	14	5	5	90
Sturbridge .	2,213	1,085,971 00	16	–	256 00	438	281	11	23	416	2	20	–	–	112–15
Sutton . .	3,051	1,461,395 00	15	–	900 00	526	398	14	51	638	2	22	1	2	106–15
Templeton .	2,764	1,068,322 00	15	$2,007 10	253 91	517	423	7	66	459	2	17	2	–	64
Upton . .	2,125	876,970 00	11	–	297 69	360	304	7	–	330	2	16	5	–	85
Uxbridge .	3,029	1,754,835 00	18	–	84 11	681	461	12	69	481	4	17	3	2	146–18
Warren . .	3,260	1,975,419 00	17	–	675 53	695	448	1	50	467	7	17	2	2	127
Webster . .	5,064	1,928,140 00	14	–	–	991	610	3	30	808	3	15	–	–	118
Westborough .	5,141	2,489,381 00	17	–	652 21	871	582	6	116	769	1	21	6	6	139-1
West Boylston,	2,902	1,064,909 00	12	–	419 18	519	383	14	38	575	1	17	7	2	78–10
W. Brookfield,	1,903	795,797 00	10	–	208 53	389	248	10	41	378	2	14	3	1	80–14
Westminster .	1,712	845,870 00	13	–	69 00	312	209	1	56	253	4	17	5	3	94–10
Winchendon .	3.762	2,005,047 00	18	–	114 21	732	504	4	67	724	1	20	3	3	112–10
Worcester .	49,317	45,676,455 00	157	–	3,084 40	9,901	6,802	–	1,287	9,097	14	163	82	44	1,624–10
Total . .	210,295	$134,605,405 00	938	$4,614 60	$19,225 21	42,880	30,042	407	4,681	38,831	167	1,101	229	151	8–3

WORCESTER COUNTY — CONTINUED.

TOWNS.	Average length as returned by Committee.	No. of Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877–78.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
			Males.	Females.								
Ashburnham . .	6–12	–	$36 11	$25 23	$3,000 00	–	$177 00	$23 00	–	$130,000 00	$6,050 00	$118 09
Athol . .	7–16	–	120 00	34 68	7,000 00	–	310 40	35 25	–	–	–	285 73
Auburn . .	6–17	–	40 00	30 60	1,500 00	–	80 00	–	–	–	–	–
Barre . .	7–12	–	55 60	34 80	5,100 00	–	211 55	32 00	–	–	–	210 67
Berlin . .	6–7	–	–	33 00	1,100 00	–	60 00	15 50	–	2,020 00	141 40	102 58
Blackstone .	8	–	111 11	31 16	6,900 00	–	200 00	44 75	–	–	–	254 20
Bolton . .	7–6	–	65 00	30 06	1,200 00	–	101 00	17 90	–	12,000 00	780 00	–
Boylston . .	7–7	–	50 00	30 13	1,500 00	$20 00	82 00	17 50	–	–	–	95 00
Brookfield . .	7–18	–	84 50	32 80	4,650 00	50 00	120 00	20 00	–	–	–	210 00
Charlton . .	7–7	1	36 00	28 50	2,732 71	–	150 00	17 00	–	2,000 00	120 00	–
Clinton . .	9–15	–	156 25	43 77	14,738 39	–	350 00	62 89	–	–	–	–
Dana . .	6–9	–	20 00	23 45	700 00	–	83 50	19 25	–	–	–	55 04
Douglas . .	8–9	–	60 00	31 13	3,300 00	–	100 00	21 80	$100 00	941 34	56 48	231 68
Dudley . .	8–15	–	53 33	34 00	4,500 00	–	180 00	–	–	6,000 00	420 00	–
Fitchburg . .	8–17	–	118 84	32 38	31,300 00	–	1,800 00	100 00	1,800 00	–	–	–
Gardner . .	7–12	–	95 53	41 68	6,500 00	–	375 00	42 00	–	–	–	262 21
Grafton . .	8–8	–	85 05	39 14	8,560 48	15 00	601 25	18 25	–	1,000 00	65 00	–
Hardwick . .	6	–	36 84	32 31	2,000 00	–	140 50	25 00	–	200 00	12 00	143 11
Harvard . .	6–17	–	38 34	33 34	2,400 00	–	110 00	20 37	–	–	–	–
Holden . .	7–10	–	36 66	30 36	2,700 00	–	141 25	15 00	–	3,366 67	202 00	247 70
Hubbardston .	6–5	–	45 78	30 87	2,500 00	–	110 00	19 15	–	–	–	–
Lancaster . .	8	–	118 00	36 00	5,549 00	–	181 57	27 50	–	–	–	–
Leicester . .	8–12	–	120 00	38 36	5,000 00	–	200 54	–	–	28,750 00	1,954 22	328 26
Leominster .	8–6	–	173 34	40 00	8,550 00	–	246 75	55 00	–	11,433 33	600 00	–
Lunenburg .	6	–	37 67	33 80	1,600 00	–	127 50	35 00	–	–	–	80 60

Mendon	6–17	-	44 50	28 70	1,500 00	-	75 00	38 00	-	-	-	174 30
Milford	9–5	-	180 00	35 47	18,600 00	-	1,348 32	-	1,500 00	-	-	-
Millbury	9–3	-	74 66	37 51	7,000 00	-	360 00	-	-	-	-	-
New Braintree	7–11	-	32 00	32 00	1,676 62	-	111 00	20 00	-	-	-	-
Northborough	8–5	-	100 00	34 09	3,250 00	110 31	137 00	20 00	-	-	-	-
Northbridge	9	-	145 00	42 44	7,850 00	-	200 00	-	-	-	-	233 54
North Brookfield,	7–7	-	74 00	35 52	7,000 00	-	341 00	-	-	-	-	262 21
Oakham	6	-	-	25 50	900 00	-	59 25	-	-	-	-	114 09
Oxford	8–3	-	52 00	31 66	4,500 00	-	197 50	21 75	-	-	-	-
Paxton	6–13	-	40 00	26 40	1,309 30	-	62 00	13 00	-	-	-	-
Petersham	7–9	-	30 00	33 24	2,500 00	-	216 57	15 00	-	735 00	44 00	103 58
Phillipston	6	-	31 34	25 00	1,000 00	-	51 00	20 00	-	-	-	86 57
Princeton	6	-	45 00	29 00	1,700 00	-	109 50	13 00	-	-	-	110 09
Royalston	6	-	37 88	25 42	1,800 00	-	135 50	21 50	-	6,500 00	471 63	88 07
Rutland	6	-	35 20	30 92	2,000 00	-	80 00	14 00	-	-	-	-
Shrewsbury	7–19	-	94 00	34 00	3,000 00	120 00	252 00	20 00	-	-	-	-
Southborough	7–15	-	94 00	35 00	4,500 00	-	180 00	25 00	-	-	-	91 00
Southbridge	8–10	-	66 67	35 00	9,780 00	-	520 20	43 50	-	-	-	-
Spencer	8–7	-	59 84	34 00	8,800 00	-	233 00	27 00	-	-	-	-
Sterling	7–10	-	43 57	34 09	3,200 00	-	150 50	22 00	-	-	-	152 12
Sturbridge	7–10	-	29 00	25 72	3,000 00	30 00	136 00	26 00	-	-	-	-
Sutton	7–2	1	67 42	28 11	4,000 00	-	165 00	25 00	-	2,000 00	120 00	190 94
Templeton	7–13	-	77 00	30 50	4,700 00	-	283 78	40 00	-	-	-	165 13
Upton	7–15	-	66 00	35 27	4,300 00	-	175 00	34 00	-	-	-	-
Uxbridge	8–3	1	56 50	34 65	6,300 00	-	90 00	60 00	-	-	-	-
Warren	7–8	-	59 85	30 71	5,000 00	-	228 92	60 00	-	-	-	203 16
Webster	8–6	-	56 00	36 39	6,300 00	-	225 00	24 00	-	-	-	246 20
Westborough	8–4	-	102 57	45 90	8,300 00	-	600 00	30 00	600 00	-	-	-
West Boylston	7–17	-	36 00	35 00	3,300 00	-	232 50	8 00	-	-	-	220 18
West Brookfield,	8–18	-	65 50	28 55	3,000 00	-	99 00	25 00	-	-	-	-
Westminster	7–12	1	41 50	26 49	2,750 00	-	143 75	6 25	-	-	-	-
Winchendon	6–5	-	77 77	30 41	4,365 36	-	204 75	61 20	-	-	-	-
Worcester	10	-	156 21	64 51	124,566 27	-	2,975 00	239 60	2,700 00	1,239 51	74 83	-
Total	-	4	$70 80	$33 25	$406,328 13	$345 31	$16,617 85	$1,656 91	$6,700 00	$208,185 85	$11,111 56	$5,066 05

WORCESTER COUNTY — CONCLUDED.

TOWNS.	HIGH SCHOOLS.						INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			Town's share of School Fund, payable Jan. 25, 1878.	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	How supported.	Length. Months. Days.	Salary of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Ashburnham . .	1	6	70	Taxation,	9–1	$1,000 00	1	46	$2,000 00	–	–	–	$246 84	–
Athol . .	1	2	68	Taxation,	9–15	1,200 00	–	–	–	–	–	–	217 82	$27 00
Auburn . .	–	–	–	–	–	–	–	–	–	–	–	–	232 60	–
Barre . .	1	4	57	Taxation,	9	1,000 00	–	–	–	–	–	–	190 69	24 50
Berlin . .	1	1	31	Taxation,	3	150 00	–	–	–	–	–	–	222 46	–
Blackstone .	1	2	82	Taxation,	8–17	983 21	–	–	–	1	5	$475 00	260 22	–
Bolton . .	1	1	53	Not by tax,	10	700 00	–	–	–	–	–	–	220 29	5 99
Boylston . .	1	1	21	Taxation,	3	720 00	–	–	–	–	–	–	218 70	24 60
Brookfield .	1	1	38	Taxation,	9–10	1,000 00	–	–	–	–	–	–	198 67	–
Charlton . .	–	–	–	–	–	–	–	–	–	–	–	–	235 79	–
Clinton . .	1	2	71	Taxation,	9–12	1,500 00	–	–	–	2	50	800 00	264 92	–
Dana . .	–	–	–	–	–	–	–	–	–	–	–	–	211 51	–
Douglas . .	1	1	40	Taxation,	9	720 00	–	–	–	1	40	400 00	201 52	–
Dudley . .	1	1	48	Taxation,	10	1,000 00	1	–	–	–	–	–	269 52	–
Fitchburg .	1	6	186	Taxation,	10	2,070 00	–	–	–	1	20	150 00	–	–
Gardner . .	1	2	66	Taxation,	9–15	1.000 00	–	–	–	–	–	–	225 11	–
Grafton . .	1	2	50	Taxation,	10	1,350 00	–	–	–	–	–	–	245 97	–
Hardwick .	–	–	–	–	–	–	–	–	–	1	40	65 00	248 44	–
Harvard . .	–	–	–	–	–	–	–	–	–	–	–	–	227 70	–
Holden . .	–	–	–	–	–	–	–	–	–	–	–	–	253 46	119 70
Hubbardston .	–	–	–	–	–	–	–	–	–	–	–	–	230 10	48 60
Lancaster . .	1	2	52	Taxation,	9	1,800 00	–	–	–	1	–	90 00	182 26	56 02
Leicester . .	1	3	46	Part tax,	9–19	1,200 00	1	18	873 25	–	–	–	211 53	–
Leominster .	1	3	221	Part tax,	9–15	1,692 50	–	–	–	–	–	–	191 98	47 97
Lunenburg .	–	–	–	–	–	–	–	–	–	–	–	–	219 49	–

Mendon . .	1	1	30	Taxation,	5–8	$355 50	–	–	–	–	–	–	$224 51	–
Milford . .	1	3	121	Taxation,	10	1,800 00	–	–	–	3	88	$800 00	353 37	–
Millbury . .	1	2	73	Taxation,	10	1,400 00	–	–	–	1	20	750 00	256 00	–
New Braintree .	–	–	–	–	–	–	–	–	–	–	–	–	212 20	$28 33
Northborough .	1	2	66	Taxation,	10	1,000 00	–	–	–	1	11	300 00	176 45	–
Northbridge .	1	1	45	Taxation,	10	1,500 00	–	–	–	1	2	1,000 00	244 03	70 40
No. Brookfield .	1	2	73	Taxation,	9–10	1,500 00	–	–	–	1	45	200 00	236 73	59 00
Oakham . .	–	–	–	–	–	–	–	–	–	–	–	–	217 78	–
Oxford . .	1	1	41	Taxation,	10	1,000 00	–	–	–	–	–	–	205 17	–
Paxton . .	–	–	–	–	–	–	–	–	–	–	–	–	213 56	53 21
Petersham .	1	2	51	Taxation,	9	450 00	–	–	–	–	–	–	222 23	50 00
Phillipston .	–	–	–	–	–	–	–	–	–	–	–	–	213 34	6 60
Princeton . .	–	–	–	–	–	–	–	–	–	–	–	–	222 80	24 00
Royalston . .	–	–	–	–	–	–	–	–	–	4	105	330 00	221 54	–
Rutland . .	–	–	–	–	–	–	–	–	–	–	–	–	222 12	–
Shrewsbury .	1	1	42	Taxation,	8–10	850 00	–	–	–	1	12	120 00	182 26	–
Southborough .	1	2	54	Taxation,	9–10	1,200 00	1	45	$10,000 00	2	32	910 00	193 19	36 00
Southbridge .	1	2	39	Taxation,	10	1,200 00	–	–	–	–	–	–	230 50	–
Spencer . .	1	2	66	Taxation,	10	1,200 00	–	–	–	2	56	370 00	270 58	50 05
Sterling . .	–	–	–	–	–	–	–	–	–	–	–	–	182 49	–
Sturbridge .	–	–	–	–	–	–	–	–	–	–	–	–	194 56	–
Sutton . .	1	2	54	Taxation,	9	850 00	–	–	–	1	25	200 00	225 45	–
Templeton .	1	2	115	Taxation,	10	1,200 00	–	–	–	–	–	–	205 61	98 08
Upton . .	1	2	50	Taxation,	10	1,000 00	–	–	–	1	20	250 00	236 93	–
Uxbridge . .	1	1	47	Taxation,	10	1,200 00	–	–	–	–	–	–	221 33	50 00
Warren . .	1	2	45	Taxation,	9	900 00	–	–	–	1	27	32 40	209 82	–
Webster . .	1	2	66	Taxation,	10	1,000 00	–	–	–	1	32	125 00	230 68	57 67
Westborough .	1	3	73	Taxation,	9–15	1,000 00	–	–	–	2	33	500 00	239 58	20 25
West Boylston .	2	3	85	Taxation,	9	775 00	–	–	–	–	–	–	221 00	–
W. Brookfield .	–	–	–	–	–	–	–	–	–	–	–	–	242 85	33 40
Westminster .	1	1	54	Part tax,	5–15	315 00	–	–	–	–	–	–	228 73	28 00
Winchendon .	1	1	30	Taxation,	9	700 00	–	–	–	3	60	110 00	234 34	13 48
Worcester .	1	13	643	Taxation,	10	2,700 00	3	200	2,500 00	6	1,242	4,000 00	–	–
Total . .	41	93	3,163	–	–	$44,181 21	7	309	$15,373 25	38	1,965	$11,977 40	$12,619 32	$932 85

RECAPITULATION.

COUNTIES.	Population — State Census, 1875.	Valuation — 1877.	No. of Schools.	Amount expended in 1877 for erecting School-houses.	Amount expended in 1877 for repairing School-houses.	No. of different Scholars in Public Schools during the school year.	Av'ge attendance in all the Pub. Schools during the school year.	Persons under 5 years of age who attend the Public Schools.	Persons over 15 years of age who attend the Public Schools.	No. in the State between 5 and 15 years of age, May 1, 1877.
Barnstable	32,144	$15,048,587 00	167	$4,118 76	$10,469 13	6,657	4,919	40	1,069	5,939
Berkshire	68,270	33,902,775 00	345	9,992 35	5,775 15	14,305	9,703	248	1,417	13,680
Bristol	131,087	107,678,928 00	444	37,043 08	15,184 04	24,824	17,046	136	1,672	23,446
Dukes	4,071	3,263,750 00	24	–	372 82	727	521	11	89	723
Essex	223,342	159,878,475 00	733	17,385 83	27,876 59	41,113	30,018	147	2,921	40,213
Franklin	33,696	15,454,811 00	251	18,181 00	3,816 50	6,910	5,269	150	852	5,935
Hampden	94,304	65,717,450 00	362	3,077 01	10,076 96	16,271	11,577	179	1,408	16,336
Hampshire	44,821	24,517,948 00	273	704 26	6,842 06	9,313	6,691	122	951	8,656
Middlesex	284,112	271,269,772 00	914	57,092 03	52,299 01	57,016	41,635	211	4,998	51,325
Nantucket	3,201	2,431,890 00	11	–	307 83	456	414	–	25	643
Norfolk	88,321	89,619,757 00	397	17,005 16	21,626 03	17,966	13,676	138	1,459	17,180
Plymouth	69,362	38,500,712 00	327	6,011 64	8,567 72	13,250	10,198	156	1,188	12,644
Suffolk	364,886	706,336,522 00	544	125,539 04	130,623 27	58,493	46,738	–	4,674	61,651
Worcester	210,295	134,605,405 00	938	4,614 60	19,225 21	42,880	30,042	407	4,681	38,831
Totals	1,651,912	$1,668,226,782 00	5,730	$300,764 76	$313,062 32	310,181	228,447	1,945	27,404	297,202

RECAPITULATION — CONTINUED.

COUNTIES.	No. of different persons employed as Teachers in Public Schools.		Number of Teachers from Normal Schools.		Agg'te length of Public Schools for the year in months and days.	Average of months for the year.	Schools kept less than six months.	Average wages of Teachers per month, including the value of board.		Raised by taxes for Schools, including wages of Teachers, board, fuel, care of fires and school-rooms, for the school year 1877-78.
	Males.	Females.	Attended.	Graduated.				Males.	Females.	
Barnstable . . .	53	169	26	24	1,406–17	8–9	5	$65 50	$31 15	$61,850 00
Berkshire . . .	99	407	66	49	2,784–4	8–1	7	41 95	26 10	108,721 96
Bristol	73	523	99	89	4,018–12	9–1	4	76 41	35 16	265,975 00
Dukes	9	22	2	2	170–9	7–2	–	47 90	25 84	6,315 00
Essex	101	895	197	180	6,975–10	9–10	5	97 45	36 41	496,348 67
Franklin . . .	37	338	59	49	1,747–17	6–19	8	39 28	25 79	52,897 50
Hampden . . .	62	452	110	91	3,130–11	8–14	4	60 89	29 66	190,132 00
Hampshire . . .	48	348	36	33	2,113–5	7–15	–	44 42	25 94	74,261 93
Middlesex . . .	169	1,282	335	317	8,298–7	9–2	8	101 56	40 58	800,068 56
Nantucket . . .	1	10	1	1	107–10	9–15	–	114 28	30 70	6,250 00
Norfolk . . .	79	448	134	57	3,751–15	9–9	1	102 72	40 67	246,885 01
Plymouth . . .	72	370	96	97	2,906–1	8–18	1	68 76	31 44	133,571 87
Suffolk	148	1,025	21	509	5,486–5	10–2	–	127 15	49 95	1,341,905 14
Worcester . . .	167	1,101	229	151	7,621–18	8–3	4	70 80	33 25	406,328 13
Total . . .	1,118	7,390	1,411	1,649	50,519–1	8–16	47	$75 64	$33 04	$4,191,510 77

RECAPITULATION — CONTINUED.

COUNTIES.	Amount of board, fuel, etc., voluntarily contributed for Public Schools.	Expenses of superintendence by School Committee, including the salary of Superintendent.	Expenses of printing Reports, etc.	Salary of Superintendent of Public Schools.	Am't of School Funds, the income of which can be appropriated only for the support of Academies and Schools.	Income from local School Funds.	Income of Funds, appropriated to Public Schools at the option of the town, including tax on Dogs.
Barnstable . . .	$104 50	$2,380 04	$478 50	$700 00	$30,300 00	$1,750 00	$847 91
Berkshire . . .	1,852 70	3,315 22	563 40	–	20,347 26	1,355 45	2,705 63
Bristol	–	9,137 87	873 57	6,650 00	80,700 00	4,241 54	3,808 17
Dukes	–	368 97	93 20	–	–	–	–
Essex	1,380 00	15,470 47	2,494 28	7,550 00	436,863 00	14,550 49	7,152 03
Franklin . . .	1,357 00	2,857 13	393 05	–	46,538 67	3,285 79	1,401 77
Hampden . . .	1,294 00	7,659 92	360 77	4,800 00	183,307 19	11,292 47	3,494 87
Hampshire . . .	860 75	3,598 51	405 29	1,200 00	158,074 89	10,700 20	2,126 82
Middlesex . . .	209 50	23,824 95	2,998 17	16,238 94	175,754 51	9,891 96	5,998 11
Nantucket . . .	–	150 00	19 00	–	37,700 00	2,682 00	–
Norfolk . . .	107 00	8,630 88	734 05	3,912 50	138,664 94	8,448 12	4,123 11
Plymouth . . .	500 00	5,098 71	898 45	900 00	193,591 50	12,636 71	3,568 16
Suffolk	–	60,054 28	1,043 58	6,333 34	45,587 46	1,407 14	20,540 95
Worcester . . .	345 31	16,617 85	1,656 91	6,700 00	208,185 85	11,111 56	5,066 05
Totals . . .	$8,010 76	$159,164 80	$13,012 22	$54,984 78	$1,755,615 27	$93,353 43	$60,833 58

RECAPITULATION — CONCLUDED.

COUNTIES.	HIGH SCHOOLS.				INCORP. ACADEMIES.			UNINCOR. ACADEMIES AND PRIVATE SCHOOLS.			County's share of School Fund, payable Jan. 25, 1878	How much of said Fund was used for apparatus and books of reference.
	Number.	No. of Teachers.	No. of Scholars.	Aggregate paid for Salaries of Principal.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.	Number.	Average No. of Scholars.	Aggregate paid for Tuition.		
Barnstable . . .	10	14	458	$9,037 50	2	49	$882 00	5	59	$610 00	$3,125 88	$353 28
Berkshire . . .	10	20	661	11,515 73	–	–	–	24	531	13,160 00	6,985 73	297 01
Bristol	10	34	1,334	13,181 77	3	195	12,586 00	29	1,117	15,100 00	3,580 16	65 08
Dukes	1	2	37	650 50	1	50	175 00	1	14	4,900 00	1,031 83	–
Essex	27	77	2,404	36,506 30	4	419	21,213 00	60	2,346	18,687 00	6.692 92	288 00
Franklin . . .	7	13	415	5,418 00	2	115	675 00	15	229	2,750 00	5,682 95	197 60
Hampden . . .	9	32	1,125	13,568 00	2	451	9,779 46	20	1,455	14,030 00	4,546 92	78 93
Hampshire . . .	11	20	659	9 523 33	4	549	16,431 48	13	269	5,728 00	5,067 08	341 33
Middlesex . . .	39	115	4,235	53,848 50	9	574	18,260 00	58	2,524	36,814 20	10,041 86	1,406 37
Nantucket . . .	1	2	72	1,200 00	1	90	900 00	–	–	–	218 85	–
Norfolk . . .	22	43	1,474	27,784 73	2	248	8,041 00	23	576	12,416 00	4,582 80	357 87
Plymouth . . .	17	34	1,135	19,312 00	4	175	3,150 00	18	353	5,535 00	5,855 23	438 40
Suffolk . . .	11	96	2,342	42,400 00	23	5,230	77,868 00	95	4,102	183,352 00	399 12	30 00
Worcester . . .	41	93	3,163	44,181 21	7	309	15,373 25	38	1,965	11,977 40	12,619 32	932 85
Totals . . .	216	595	19,514	$288,127 57	64	8,454	$185,334 19	399	15,540	$325,059 60	$70,430 65	$4,786 72

EVENING SCHOOLS.

CITIES AND TOWNS.	No. of Schools.	Attendance.			Time.	No. of Teachers.	Expense.
		Males.	Females.	Average.	Number of Evenings.		
Beverly . .	2	82	35	75	75	3	$225 00
Boston . . .	23	3,673	–	1,694	225*	134	46,989 29
Brookfield . .	1	45	–	39	–	1	75 00
Cambridge . .	6†	458	224	375	50	43	3,877 25
Cambridge . .	2‡	62	58	79	50	2	792 05
Chelsea . .	1	127	45	52	125	3	379 75
Clinton . .	1	167	109	113	34	19	565 41
Fall River . .	9	437	263	458	50	27	1,350 00
Fitchburg . .	2	90	65	66	60	8	600 00
Greenfield . .	1	30	9	27	48	1	55 00
Haverhill . .	3	360	144	187	101	21	1,168 75
Holyoke . .	2	320	199	262	40	16	884 87
Hyde Park . .	2	28	36	15	100	2	256 50
Lawrence . .	2	114	50	125	51	10	2,000 00
Lowell . . .	5	872	525	524	64	61	4,496 29
Lynn . . .	1	40	35	35	58	3	594 00
Malden . .	1	70	20	36	61	4	459 54
Medford . .	1	32	5	17	64	2	283 00
New Bedford .	2	156	67	120	54	7	1,216 00
Newburyport .	1	103	–	61	16	5	–
Newton . .	1	67	18	51	56	5	622 29
North Brookfield .	1	54	34	69	49	2	125 00
Peabody . .	1	43	7	35	30	3	200 00
Salem . . .	5	244	146	249	70	19	3,007 49
Somerville . .	1	218	30	91	95	5	807 54
Springfield . .	2	235	117	140	50	10	683 00
Stoneham . .	1	34	48	34	31	3	165 30
Sutton . . .	2	97	43	–	160	2	200 00
Taunton . .	3	280	55	213	50	5	1,436 31
Waltham . .	2	58	51	30	90	4	370 53
Watertown . .	1	45	3	38	34	2	100 00
Westfield . .	1	56	64	27	40	2	155 06
Worcester . .	5	249	226	215	82	23	1,751 80
32 cities and towns	94	8,986	2,731	5,552	2,163	457	$75,892 02

* 125 evenings of Evening School; 100 evenings of Drawing School.

† Evening School. ‡ Drawing School.

RETURNS OF SCHOOLS IN STATE INSTITUTIONS, FOR THE YEAR ENDING JULY 31, 1878.

STATE INSTITUTIONS.	No. of Schools in the Institution.	No. of different Scholars of all ages during the year.	Average attendance during the year.	No. under 5 years of age attend'g School.	No. over 15 years of age attend'g School.	No. between 5 and 15 years of age remaining in the Institution, July 31, 1878.	No. of Teachers during the Year.		Wages of Teachers per Month.		Length of each School in months.
							Males.	Females.	Males.	Females.	
State Industrial School at Lancaster .	3	114	59	–	99	15	–	3	–	$26·92	12
State Primary School at Monson . .	8	650	420	15	22	420	–	8	–	21·00	12
State Reform School at Westborough .	8	455	310	–	251	65	4	4	$58·33	25·00	12

GRADUATED TABLES — First Series.

The following Table shows the sums appropriated by the several cities and towns in the State, for the education of each child between five and fifteen years of age. The income of the surplus revenue and of other funds held in a similar way, when appropriated to schools, is added to the sum raised by taxes; and these sums constitute the amount reckoned as appropriations. The income of such school funds as were given and are held on the express condition that their income shall be appropriated to schools, is not included. Such an appropriation of their income, being necessary to retaining the funds, is no evidence of the liberality of those holding the trust. But if a town appropriates the income of any fund to its public schools, which may be so appropriated or not, at the option of the voters, or when the town has a legal right to use such income in defraying its ordinary expenses, then such an appropriation is as really a contribution to common schools as an equal sum raised by taxes. On this account the surplus revenue, and sometimes other funds, are to be distinguished from local school funds as generally held. The income of the one *may* be appropriated to schools, or not, at the pleasure of the town; the income of the other *must* be appropriated to schools by the condition of the donation. Funds of the latter kind are usually donations made to furnish means of education in addition to those provided by a reasonable taxation. Committees are expected, in their annual returns, to make this distinction in relation to school funds.

Voluntary contributions are not included in the amount which is divided in order to ascertain the sum appropriated to each child. In many towns such contributions, however liberal, are not permanent, and cannot be relied upon as a stated provision. They are often raised and applied to favor particular districts or schools, or classes of scholars, and not to benefit equally all that attend the public schools. Besides, the value of board and fuel gratuitously furnished is determined by the mere estimate of individuals, and is therefore uncertain; while the amount raised by taxes, being in money, has a fixed and definite value, and is a matter of record. Still the contributions voluntarily made are exhibited in a separate column of the table, as necessary to a complete statement of the provision made by the towns for the education of their children.

The Table exhibits the rank of each city or town in the State, in respect to its liberality in the appropriation of money to its schools, as compared with other cities and towns for the year 1877–78, also its rank in a similar scale for 1876–77. It presents the sum appropriated to each child between five and fifteen.

GRADUATED TABLES — (FOR THE STATE) — FIRST SERIES.

*Table showing the comparative amount of Money appropriated by the different Towns in the State, for the Education of each Child in the Town, between the ages of 5 and 15 years.**

For 1876–77.	For 1877–78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	NAHANT	$37 87.1	$3,597 76	–	–	95	–
2	2	Brookline	27 84	37,000 00	–	–	1,329	–
3	3	Milton	26 80.4	13.000 00	–	–	485	–
5	4	Arlington	25 51.6	21,000 00	–	–	823	–
4	5	Newton	24 05.3	67,989 35	1.308 72	69.298 07	2,881	–
6	6	Boston	22 40 4	1,279,705 14	20,482 85	1,300,187 99	58,034	–
7	7	Winchester	21 31.4	12,000 00	–	–	563	–
12	8	Medford	20 72.6	24,478 00	–	–	1,181	–
20	9	Lexington	20 55.1	9,700 00	–	–	472	–
25	10	Haverhill	19 85	51.000 00	430 00	51,430 00	2,591	–
11	11	Lancaster	19 74.7	5,549 00	–	–	281	–
10	12	Cambridge	19 55.4	160,691 48	–	–	8,218	–
14	13	Belmont	19 46.4	8,000 00	–	–	411	–
9	14	Watertown	18 94.7	16,105 41	–	–	850	35 00
22	15	Reading	18 72.2	8,500 00	–	–	454	–
15	16	Concord	18 43.5	8,775 00	–	–	476	–
8	17	Swampscott	18 42.1	7,000 00	–	–	380	–
16	18	Weston	18 11.6	3,641 37	–	–	201	–

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* Compare the rank of towns in this Table with their rank in the next or Second Series of Tables, showing the percentage of taxable property appropriated for Schools.

Showing the comparative amount of Money appropriated by the different Towns in the State — Continued.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
26	19	Chelsea . . .	$17 98.7	$57,000 00	–	–	3,169	–
17	20	Somerville . . .	17 86.4	74,260 00	–	–	4,157	–
19	21	Dedham . . .	17 59.7	20,500 74	–	–	1,165	–
68	22	New Braintree . . .	17 46.5	1,676 62	–	–	96	–
23	23	Melrose . . .	17 40.9	12,500 00	–	–	718	–
24	24	Greenfield . . .	17 16.3	10,000 00	$229 35	10,229 35	596	–
21	25	Malden . . .	17 06.7	35,500 00	–	–	2,080	–
29	26	Needham . . .	16 78.4	14,500 00	387 12	14,887 12	887	–
27	27	New Bedford . . .	16 67.9	69,422 64	762 21	70,184 85	4,208	–
13	28	Springfield . . .	16 46.5	88,500 00	–	–	5,375	–
62	29	Hull . . .	16 30.4	750 00	–	–	46	–
18	30	Walpole . . .	16 18.1	5,000 00	–	–	309	50 00
43	31	North Andover . . .	16 17.9	8,300 00	–	–	513	–
38	32	Barre . . .	16 14.2	5,100 00	210 67	5,310 67	329	–
65	33	Plymouth . . .	15 98.5	16,800 00	–	–	1,051	–
32	34	Peabody . . .	15 83.6	21,985 00	802 56	22,787 56	1,439	–
33	35	Salem . . .	15 72	68,601 45	1,511 06	70,112 51	4,460	–
31	36	Norwood . . .	15 62.5	6,500 00	–	–	416	–
28	37	Boxborough . . .	15 54.3	743 07	34 07	777 14	50	–
41	38	Stoneham . . .	15 29.1	13,900 00	–	–	909	–
34	39	Fitchburg . . .	15 15.3	31,300 00	–	–	2,065	–
48	40	Lowell . . .	14 92.9	112,565 00	–	–	7,540	–
55	41	South Hadley . . .	14 88.6	8,500 00	118 91	8,618 91	579	–
39	42	Framingham . . .	14 85.3	13,750 00	761 52	14,511 52	977	–
30	43	Waltham . . .	14 75.6	28,432 72	415 25	28,847 97	1,955	–
51	44	Bradford . . .	14 66.6	5,500 00	–	–	375	–

77	45	Hyde Park	$14 48.3	$18,900 00	–	–	1,305	–
37	46	Everett	14 33.2	10,000 00	$376 65	$10,376 65	724	–
81	47	Yarmouth	14 26	4,250 00	84 94	4,334 94	304	–
47	48	Hingham	14 23.2	11,100 87	–	–	780	–
49	49	Merrimac	14 21.2	4,800 00	88 95	4,888 95	344	–
50	50	Westfield	14 04.7	19,125 00	698 48	19,821 48	1,411	–
54	51	Wrentham	13 96.2	5,500 00	280 33	5,780 33	414	–
46	52	Quincy	13 94.2	25,500 00	–	–	1,829	–
86	53	Petersham	13 92.3	2,500 00	103 58	2,603 58	187	–
44	54	Kingston	13 79.3	3,200 00	–	–	232	–
52	55	Worcester	13 69.3	124,566 27	–	–	9,097	–
57	56	Northborough . . .	13 65.5	3,250 00	–	–	238	$110 31
59	57	Holbrook	13 62.4	5,000 00	–	–	367	–
58	58	Lynn	13 57.3	78,712 64	–	–	5,799	–
75	59	Barnstable	13 53.3	9,500 00	149 31	9,649 31	713	32 50
60	60	Falmouth	13 52.4	4,500 00	179 45	4,679 45	346	–
148	61	Marshfield	13 50.9	2,800 00	171 87	2,971 87	220	–
45	62	Longmeadow . . .	13 41.9	3,300 00	148 80	3,448 80	257	–
98	63	Taunton	13 34	42,768 25	–	–	3,206	–
42	64	Lincoln	13 33.3	2,000 00	–	–	150	–
35	65	Winthrop	13 21.9	1,700 00	58 10	1,758 10	133	–
61	66	Dracut	13 20.9	2,400 00	175 83	2,575 83	195	–
91	67	Swansea	13 18.3	2,689 40	–	–	204	–
64	68	Beverly	13 14.8	17,500 00	–	–	1,331	–
139	69	Uxbridge	13 09.8	6,300 00	–	–	481	–
63	70	Athol	13 03.4	7,000 00	285 73	7,285 73	559	–
80	71	Upton	13 03	4,300 00	–	–	330	–
36	72	Medfield	13 02.2	2,682 60	–	–	206	–
169	73	Tyngsborough . . .	12 94.5	1,125 00	53 01	1,178 01	91	–
135	74	Methuen	12 87	8,700 00	–	–	676	–
90	75	Weymouth	12 84	23,800 00	1,367 28	25,167 28	1,960	–
73	76	Groton	12 82.1	5,000 00	–	–	390	–

Showing the comparative amount of Money appropriated by the different Towns in the State — Continued.

For 1876–77.	For 1877–78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
85	77	Southborough	$12 78.8	$4,500 00	$91 00	$4,591 00	359	–
152	78	Dunstable	12 78.1	800 00	43 52	843 52	66	–
79	79	Woburn	12 78.1	26,992 83	–	–	1,212	–
40	80	Shelburne	12 76.1	3,283 00	73 25	3,356 25	263	–
72	81	Canton	12 73.6	11,000 00	526 23	11,526 23	905	$40 00
66	82	Saugus	12 65.8	6,000 00	–	–	474	–
127	83	Randolph	12 48.4	9,550 00	–	–	765	–
56	84	Sandwich	12 37.3	8,500 00	–	–	687	40 00
93	85	Carlisle	12 34.4	800 00	76 45	876 45	71	–
89	86	Brockton	12 26.1	25,821 00	418 60	26,239 60	2,140	–
87	87	Foxborough . . .	12 14.5	6,000 00	–	–	494	–
124	88	Rehoboth	12 13.1	3,200 00	281 73	3,481 73	287	–
151	89	Charlemont . . .	12 10	1,500 00	60 90	1,560 90	129	–
74	90	Sudbury	12 09.7	2,400 00	104 00	2,504 00	207	2 00
92	91	Sterling	12 06	3,200 00	152 12	3,352 12	278	–
101	92	Bedford	11 90.5	2,000 00	–	–	168	–
96	93	East Bridgewater . .	11 85.9	5,000 00	194 08	5,194 08	438	–
99	94	Shirley	11 83.6	1,800 00	153 00	1,953 00	165	–
70	95	Bridgewater . . .	11 81.2	8,200 00	340 00	8,540 00	723	500 00
173	96	Mattapoisett . . .	11 76.9	2,100 00	77 30	2,177 30	185	–
125	97	Manchester . . .	11 67.3	2,800 00	–	–	257	–
83	98	Wellfleet	11 61.4	4,800 00	78 00	4,878 00	420	–
117	99	Dover	11 52.9	1,100 00	99 01	1.199 01	104	17 00
108	100	Cohasset	11 51 5	5,000 00	216 38	5,216 38	453	–
97	101	Holliston	11 49.7	6,300 00	219 06	6,519 06	567	–
143	102	Wayland	11 44	3,750 00	139 65	3,889 65	340	–

174	103	Abington	$11 39.6	$7,000 00	$281 86	$7,281 86	639	–
104	104	North Reading . . .	11 39.2	1,800 00	–	–	158	–
67	105	Littleton	11 37.7	2,019 33	108 25	2,127 58	187	–
82	106	Stockbridge . . .	11 36.4	4,000 00	–	–	352	–
69	107	Georgetown . . .	11 28.5	4,500 00	126 85	4,626 85	410	–
71	108	Sherborn	11 22.1	2,000 00	64 61	2,064 61	184	–
78	109	Fairhaven	11 21.8	5,126 71	–	–	457	–
109	110	Ipswich	11 17	6,000 00	254 97	6,254 97	560	$150 00
175	111	Warren	11 14.2	5,000 00	203 16	5,203 16	467	–
111	112	Gloucester	11 13.6	41,895 35	900 22	42,795 57	3,843	–
144	113	Paxton	11 09.6	1,309 30	–	–	118	–
121	114	Boxford	11 07.4	1,000 00	196 00	1,196 00	108	–
134	115	Chelmsford . . .	11 03.8	5,500 00	228 78	5,728 78	519	–
167	116	Braintree	10 98.9	7,350 00	385 96	7,735 96	704	–
102	117	Amherst	10 97.6	7,361 93	123 45	7,485 38	682	–
248	118	Grafton	10 93.3	8,560 48	–	–	783	15 00
53	119	Greenwich	10 93.2	900 00	29 23	929 23	85	–
136	120	Attleborough . . .	10 91.9	16,500 00	709 12	17,209 12	1,576	–
216	121	Truro	10 91.4	1,800 00	55 37	1,855 37	170	–
128	122	Shrewsbury . . .	10 87	3,000 00	–	–	276	120 00
137	123	Westminster . . .	10 86.9	2,750 00	–	–	253	–
88	124	Northampton . . .	10 81.9	21,550 00	553 19	22,103 19	2,043	–
95	125	Wakefield	10 80.5	11,000 00	–	–	1,018	–
158	126	Westborough . . .	10 79.3	8,300 00	–	–	769	–
113	127	Orleans	10 77.6	2,500 00	–	–	232	–
214	128	Lynnfield	10 74.9	1,200 00	68 42	1,268 42	118	–
118	129	Andover	10 74.6	9,500 00	–	–	884	–
94	130	Tewksbury . . .	10 72.5	2,000 00	155 68	2,155 68	201	–
207	131	Marblehead . . .	10 68.7	15,500 00	434 24	15,934 24	1,491	250 00
149	132	Northbridge . . .	10 66.4	7,850 00	233 54	8,083 54	758	–
205	133	Tisbury	10 63.8	2,500 00	–	–	235	–
84	134	West Springfield . .	10 62.6	7,000 00	395 78	7,395 78	696	–

Showing the comparative amount of Money appropriated by the different Towns in the State — Continued.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
154	135	Templeton	$10 59.9	$4,700 00	$165 13	$4,865 13	459	–
106	136	Brookfield	10 59	4,650 00	210 00	4,860 00	459	$50 00
141	137	Danvers	10 54.9	11,150 00	454 00	11,604 00	1,100	–
142	138	Gardner	10 53.3	6,500 00	262 21	6,762 21	642	–
145	139	Brewster	10 47.6	2,200 00	–	–	210	–
100	140	Revere	10 47.6	3,500 00	–	–	315	–
76	141	Newburyport	10 41.6	25,500 00	654 59	26,154 59	2,511	900 00
228	142	Princeton	10 40.3	1,700 00	110 09	1,810 09	174	–
103	143	Halifax	10 39	800 00	–	–	77	–
126	144	Granby	10 38	1,500 00	36 33	1,536 33	148	–
132	145	Leominster	10 37.6	8,550 00	–	–	824	–
163	146	Boylston	10 35.7	1,500 00	95 00	1,595 00	154	20 00
220	147	Erving	10 26	1,200 00	82 50	1,282 50	125	–
131	148	Stoughton	10 25.5	10,101 67	–	–	985	–
138	149	Seekonk	10 21	1,800 00	191 02	1,991 02	1,576	–
182	150	Montgomery	10 20.4	500 00	–	–	49	50 00
159	151	Harvard	10 12.6	2,400 00	–	–	237	–
140	152	Chicopee	10 08.2	19,307 00	–	–	1,915	–
110	153	Lakeville	10 00	2,100 00	–	–	210	–
201	154	Middleborough	10 00	9,000 00	–	–	900	–
161	155	Westford	10 00	3,000 00	–	–	300	–
133	156	Franklin	9 95	6,000 00	–	–	603	–
120	157	Rutland	9 95	2,000 00	–	–	201	–
252	158	Norfolk	9 93.6	1,600 00	108 91	1,708 91	172	–
129	159	Salisbury	9 92 6	6,200 00	192 57	6,392 57	644	–
223	160	Hudson	9 92.3	6,850 00	145 92	6,995 92	705	–

178	161	Hubbardston	$9 92	$2,500 00	–	–	252	–
165	162	Montague	9 91.7	6,000 00	–	–	605	–
122	163	Ashland	9 90	4,000 00	$395 70	$4,395 70	444	–
160	164	Wilmington . . .	9 89.5	1,550 00	82 65	1,632 65	165	–
116	165	Lawrence	9 85.5	60,000 00	–	–	6,088	–
146	166	South Abington . . .	9 82.1	4,000 00	223 15	4,223 15	430	–
107	167	Fall River	9 80.4	88,696 83	–	–	9,047	–
114	168	Leicester	9 79.5	5,000 00	328 26	5,328 26	544	–
217	169	Dennis	9 77.7	5,800 00	75 91	5,875 91	601	–
105	170	Ashby	9 75.5	1,300 00	114 57	1,414 57	145	–
155	171	Clinton	9 73.5	14,738 39	–	–	1,514	–
123	172	Nantucket	9 72	6,250 00	–	–	643	–
284	173	Freetown	9 71.9	1,800 00	153 67	1,953 67	201	–
180	174	Easton	9 70.2	7,700 00	314 28	8,014 28	826	–
206	175	Pittsfield	9 66.6	24,000 00	–	–	2,483	–
209	176	Medway	9 65.7	7,500 00	360 42	7,860 42	814	–
156	177	Acushnet	9 65.4	1,800 00	121 12	1,921 12	199	–
130	178	Dalton	9 64.6	3,000 00	–	–	311	–
162	179	Orange	9 64.5	3,800 00	–	–	394	–
224	180	Wenham	9 62 8	1,350 00	75 00	1,425 00	148	–
193	181	Sunderland . . .	9 62.7	1,500 00	59 51	1,559 51	162	–
275	182	Westport	9 60.8	5,000 00	342 02	5,342 02	556	–
185	183	Mansfield	9 58.6	4,400 00	–	–	459	–
211	184	Natick	9 56.9	16,000 00	–	–	1,672	–
243	185	Belchertown . . .	9 55.5	4,500 00	115 22	4,615 22	483	–
115	186	Burlington	9 52.4	1,000 00	–	–	105	–
147	187	Northfield	9 52.1	2,500 00	175 27	2,675 27	281	–
212	188	North Brookfield . .	9 50.6	7,000 00	262 21	7,262 21	764	–
119	189	Lunenburg	9 49.5	1,600 00	80 60	1,680 60	177	–
286	190	Holyoke	9 47.3	23,200 00	700 24	23,900 24	2,523	–
231	191	Royalston	9 44	1,800 00	88 07	1,888 07	200	–
166	192	Amesbury	9 40.8	6,200 00	168 96	6,368 96	677	–

Showing the comparative amount of Money appropriated by the different Towns in the State — Continued.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
198	193	Townsend	$9 39.3	$3,250 00	–	–	346	$150 00
179	194	South Scituate . . .	9 33.5	3,000 00	$136 48	$3,136 48	336	–
199	195	Heath	9 26	1,000 00	–	–	108	–
191	196	Acton	9 24.5	2,500 00	171 86	2,671 86	289	–
245	197	Pembroke	9 22.6	2,000 00	158 87	2,158 87	234	–
183	198	Stow	9 11.1	1,600 00	103 79	1,703 79	187	–
189	199	Berkley	9 09.8	1,000 00	82 70	1,082 70	119	–
270	200	Essex	9 09.8	2,500 00	302 14	2,802 14	308	–
262	201	Ashburnham	9 06.4	3,000 00	118 09	3,118 09	344	–
227	202	Ayer	9 04	3,200 00	–	–	354	–
176	203	Oxford	9 03.6	4,500 00	–	–	498	–
255	204	Chesterfield	9 03.1	900 00	256 00	1,156 00	128	330 75
288	205	Plainfield	9 02.4	600 00	13 62	613 62	68	–
164	206	Gosnold	9 00	225 00	–	–	25	–
153	207	West Newbury	8 89.3	3,326 12	–	–	374	–
213	208	Billerica	8 87.6	3,000 00	–	–	338	22 50
233	209	Ludlow	8 86.3	1,900 00	147 40	2,047 40	231	–
181	210	Wareham	8 82.9	5,200 00	300 89	5,500 89	623	–
195	211	Lenox	8 81	3,700 00	–	–	420	50 00
157	212	Deerfield	8 79.7	5,125 00	153 50	5,278 50	600	–
244	213	Monson	8 77	5,000 00	305 76	5,305 76	605	–
170	214	Bellingham	8 76.9	1,800 00	260 77	2,060 77	235	–
218	215	Great Barrington . .	8 74.4	7,500 00	326 25	7,826 25	895	–
241	216	Ashfield	8 73.9	1,750 00	50 25	1,800 25	206	462 00
168	217	Provincetown . . .	8 71.7	7,600 00	–	–	872	32 00
289	218	Eastham	8 69.5	1,200 00	–	–	138	–

192	219	Phillipston	$8 69.3	$1,000 00	$86 57	$1,086 57	125	–
190	220	Cheshire	8 67.6	3,100 00	153 43	3,253 43	375	–
203	221	Hopkinton	8 66	9,000 00	438 90	9,438 90	1,090	–
242	222	Duxbury	8 53.7	3,000 00	209 94	3,209 94	376	–
261	223	Milford	8 48.2	18,600 00	–	–	2,193	–
188	224	Hanover	8 47.9	2,750 00	133 00	2,883 00	340	–
184	225	Dartmouth	8 47.7	4,500 00	230 28	4,730 28	558	–
225	226	Lee	8 46.6	7,450 00	–	–	880	$500 00
204	227	Norton	8 46.2	1,800 00	231 04	2,031 04	240	–
208	228	Groveland	8 43	3,600 00	–	–	433	–
172	229	Charlton	8 35.7	2,732 71	–	–	327	–
200	230	Dighton	8 35.2	2,500 00	180 88	2,680 88	231	–
226	231	Adams	8 31.4	26,500 00	400 00	26,900 00	2,995	–
150	232	Edgartown	8 28.7	3,000 00	–	–	362	–
235	233	West Bridgewater	8 28.2	2,500 00	224 74	2,724 74	329	–
238	234	Middleton	8 24.1	1,500 00	90 53	1,590 53	193	–
237	235	Marlborough	8 16.1	15,800 00	–	–	1,936	–
171	236	Conway	8 14.1	2,100 00	146 79	2,246 79	276	85 00
177	237	Douglas	8 13.8	3,300 00	231 68	3,531 68	434	–
194	238	Wendell	8 12.6	700 00	39 45	739 45	91	–
197	239	Webster	8 10.2	6,300 00	246 20	6,546 20	808	–
282	240	Williamstown	8 03.9	5,000 00	–	–	622	–
285	241	Dudley	7 99.3	4,500 00	–	–	563	–
219	242	Agawam	7 97.8	3,000 00	–	–	376	–
278	243	Alford	7 96.4	400 00	38 00	438 00	55	–
251	244	West Brookfield	7 93.6	3,000 00	–	–	378	–
247	245	Hanson	7 91.8	1,600 00	102 45	1,702 45	215	–
274	246	Mashpee	7 88.1	500 00	43 80	543 80	69	–
210	247	Raynham	7 84.9	2,500 00	208 10	2,708 10	345	–
234	248	Warwick	7 81.2	1,000 00	–	–	128	–
264	249	Sharon	7 77.6	2,000 00	130 70	2,130 70	274	–
302	250	New Salem	7 77.3	1,000 00	33 85	1,033 85	133	–

Showing the comparative amount of Money appropriated by the different Towns in the State — Continued.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
240	251	Westhampton	$7 70.1	$1,000 00	$16 58	$1,016 58	132	–
112	252	Easthampton	7 64.2	6,500 00	140 96	6,640 96	869	–
277	253	Maynard	7 63	3,200 00	126 67	3,326 67	436	–
267	254	Millbury	7 61.7	7,000 00	–	–	919	–
187	255	Chatham	7 61.1	3,700 00	59 64	3,759 64	494	–
263	256	Rockland	7 54.3	7,000 00	–	–	928	–
222	257	Huntington	7 52.8	1,400 00	60 45	1,460 45	194	–
232	258	Brimfield	7 52.4	1,700 00	–	–	226	–
246	259	Wilbraham	7 50.6	3,000 00	227 77	3,227 77	430	–
271	260	Harwich	7 49.9	5,000 00	121 49	5,121 49	683	–
249	261	Newbury	7 49.5	1,700 00	98 92	1,798 92	240	–
260	262	Hamilton	7 48.4	1,000 00	85 24	1,085 24	145	–
221	263	Palmer	7 44.6	6,500 00	298 56	6,798 56	913	–
294	264	Marion	7 40.4	1,000 00	73 51	1,073 51	145	–
314	265	Spencer	7 39.5	8,800 00	–	–	1,140	–
202	266	Mendon	7 37.7	1,500 00	174 30	1,674 30	227	–
257	267	Scituate	7 37	3,450 00	161 29	3,611 29	490	–
236	268	Rowley	7 36.8	1,500 00	98 94	1,598 94	217	–
283	269	Blackstone	7 36	6,900 00	254 20	7,154 20	972	–
215	270	Pepperell	7 34.5	2,600 00	–	–	354	–
196	271	Hawley	7 29.9	1,000 00	–	–	137	$24 00
279	272	Leverett	7 29.5	806 16	47 45	853 61	117	–
292	273	Granville	7 27.5	1,800 00	156 96	1,956 96	269	30 00
290	274	Worthington	7 27.2	800 00	188 98	988 98	136	530 00
323	275	Rockport	7 25.7	5,530 35	–	–	762	80 00
186	276	Sturbridge	7 21.2	3,000 00	–	–	416	30 00

304	277	Pelham	$7 18.3	$700 00	$40 02	$740 02	103	–
276	278	Egremont	7 18.3	1,000 00	70 34	1,070 34	149	$111 00
256	279	Russell	7 13	800 00	48 48	848 48	119	–
273	280	Sandisfield	7 07.5	1,500 00	106 15	1,606 15	227	674 00
306	281	Washington	7 04	800 00	80 00	880 00	125	–
266	282	Enfield	7 02.7	1,300 00	–	–	185	–
272	283	Hinsdale	7 01.7	2,400 00	–	–	342	–
318	284	West Stockbridge . .	7 01.7	2,800 00	161 14	2,961 14	422	–
254	285	Southbridge	7 00.1	9,780 00	–	–	1,397	–
300	286	Chester	6 95	1,800 00	–	–	259	–
335	287	Chilmark	6 94.4	500 00	–	–	72	–
250	288	Southampton	6 93.6	1,250 00	81 73	1,331 73	192	–
308	289	Rowe	6 93	700 00	41 55	741 55	107	–
229	290	Dana	6 92·7	700 00	55 04	755 04	109	–
280	291	Gill	6 89.6	800 00	–	–	116	256 00
298	292	Rochester	6 87.5	1,200 00	113 16	1,313 16	191	–
303	293	Oakham	6 80.6	900 00	114 09	1,014 09	149	–
296	294	Plympton	6 79.1	1,000 00	113 69	1,113 69	164	–
334	295	New Marlborough . .	6 74.4	2,500 00	440 52	2,940 52	436	50 00
307	296	Wales	6 71.9	800 00	73 44	873 44	130	–
295	297	Tolland	6 62.2	500 00	62 88	562 88	85	221 00
268	298	Carver	6 60	1,200 00	133 28	1,333 28	202	–
259	299	Shutesbury	6 57.2	700 00	29 50	729 50	111	–
312	300	Berlin	6 57.1	1,100 00	102 58	1,202 58	183	–
315	301	Sutton	6 56.9	4,000 00	190 94	4,190 94	638	–
253	302	Cummington	6 56.6	1,000 00	30 94	1,030 94	157	–
297	303	Bolton	6 55.7	1,200 00	–	–	183	–
281	304	Middlefield	6 54	850 00	125 00	975 00	149	–
322	305	Otis	6 49	1,100 00	87 35	1,187 35	183	–
269	306	Sheffield	6 42.7	2,900 00	223 73	3,123 73	486	–
230	307	Blandford	6 40.4	1,200 00	112 80	1,312 80	205	993 00
313	308	Colrain	6 29.4	1,800 00	–	–	286	530 00

Showing the comparative amount of Money appropriated by the different Towns in the State — Concluded.

For 1876–77.	For 1877–78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
287	309	Hadley	$6 28	$2,750 00	–	–	438	–
301	310	Whately	6 27.7	1,200 00	$61 60	$1,261 60	201	–
293	311	Somerset	6 27	2,771 17	–	–	442	–
299	312	Hatfield	6 21.5	1,800 00	70 81	1,870 81	301	–
309	313	Williamsburg	6 15.6	2,800 00	86 94	2,886 94	469	–
320	314	Tyringham	6 14.1	600 00	51 00	651 00	106	139 70
326	315	West Boylston	6 12.2	3,300 00	220 18	3,520 18	575	–
319	316	Holden	6 11.6	2,700 00	247 70	2,947 70	482	–
258	317	Winchendon	6 02.9	4,365 36	–	–	724	–
324	318	Hancock	6 01.6	700 00	64 00	764 00	127	–
265	319	Ware	5 88.9	5,500 00	–	–	934	–
328	320	Auburn	5 86	1,500 00	–	–	256	–
316	321	Topsfield	5 85.9	1,200 00	117 87	1,317 87	225	–
311	322	Leyden	5 83.3	700 00	–	–	120	–
327	323	Monterey	5 73.7	800 00	60 58	860 58	150	–
325	324	Lanesborough	5 71	1,800 00	37 13	1,837 13	320	–
329	325	Mount Washington	5 68 4	200 00	16 00	216 00	38	–
321	326	Florida	5 55.5	600 00	–	–	108	–
332	327	Peru	5 55.5	500 00	–	–	90	–
317	328	Southwick	5 41.6	1,000 00	99 36	1,099 36	203	–
291	329	Hardwick	5 12.2	2,000 00	143 11	2,143 11	416	–
339	330	Clarksburg	4 90.8	800 00	–	–	163	–
340	331	New Ashford	4 83.3	125 00	20 00	145 00	30	–
331	332	Becket	4 72.7	1,246 96	138 00	1.384 96	293	50 00
337	333	Prescott	4 69 8	450 00	38 56	488 56	104	–
333	334	Buckland	4 57.5	1,800 00	117 05	1,917 05	419	–

330	335	Goshen	$4 54.5	$350 00	–	–	77	–
239	336	Windsor	4 37.6	500 00	$73 33	$573 33	131	$40 00
305	337	Bernardston . . .	4 31.4	733 34	–	–	170	–
341	338	Richmond	4 02.5	800 00	81 48	881 48	219	–
310	339	Holland	3 73.1	200 00	20 16	220 16	59	–
338	340	Monroe	3 70.4	200 00	–	–	54	–
336	341	Savoy	3 24.6	400 00	77 20	477 20	147	238 00
342	342	Gay Head	3 10.3	90 00	–	–	29	–
–	343	Hampden * . . .	–	–	–	–	–	–
–	344	North Adams * . . .	–	–	–	–	–	–

* New towns; returns included this year with other towns.

BRISTOL COUNTY.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	NEW BEDFORD	$16 67.9	$69,422 64	$762 21	$70,184 85	4,208	–
4	2	Taunton	13 34.0	42,768 25	–	–	3,206	–
3	3	Swansea	13 18.3	2,689 40	–	–	204	–
6	4	Rehoboth	12 13.1	3,200 00	281 73	3,481 73	287	–
2	5	Fairhaven	11 21.8	5,126 71	–	–	457	–
7	6	Attleborough . . .	10 91.9	16,500 00	709 12	17,209 12	1,576	–
8	7	Seekonk	10 21.0	1,800 00	191 02	1,991 02	195	–
5	8	Fall River	9 80.4	88,696 83	–	–	9,047	–
18	9	Freetown	9 71.9	1,800 00	153 67	1,953 67	201	–
10	10	Easton	9 70.2	7,700 00	314 28	8,014 28	826	–
9	11	Acushnet	9 65.4	1,800 00	121 12	1,921 12	199	–
17	12	Westport	9 60.8	5,000 00	342 02	5,342 02	556	–
12	13	Mansfield	9 58.6	4,400 00	–	–	459	–
13	14	Berkley	9 09.8	1,000 00	82 70	1,082 70	119	–
11	15	Dartmouth . . .	8 47.7	4,500 00	230 28	4,730 28	558	–
15	16	Norton	8 46 2	1,800 00	231 04	2,031 04	240	–
14	17	Dighton	8 35.2	2,500 00	180 88	2,680 88	231	–
16	18	Raynham	7 84.9	2,500 00	208 10	2,708 10	345	–
19	19	Somerset	6 27	2,771 17	–	–	442	–

DUKES COUNTY.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
3	1	TISBURY	$10 63.8	$2,500 00	–	–	235	–
2	2	Gosnold	9 00	225 00	–	–	25	–

1	3	Edgartown	$8 28.7	$3,000 00	–	–	362	–
4	4	Chilmark	6 94.4	500 00	–	–	72	–
5	5	Gay Head	3 10.3	90 00	–	–	29	–

ESSEX COUNTY.

1	1	NAHANT	$37 87.1	$3,597 76	–	–	95	–
3	2	Haverhill	19 85	51,000 00	$430 00	$51,430 00	2,591	–
2	3	Swampscott . . .	18 42.1	7,000 00	–	–	380	–
6	4	North Andover . . .	16 17.9	8,300 00	–	–	513	–
4	5	Peabody	15 83.6	21,985 00	802 56	22,787 56	1,439	–
5	6	Salem	15 72.0	68,601 45	1,511 06	70,112 51	4,460	–
8	7	Bradford	14 66 6	5,500 00	–	–	375	–
7	8	Merrimac	14 21.2	4,800 00	88 95	4,888 95	344	–
9	9	Lynn	13 57.3	78,712 64	–	–	5,799	–
10	10	Beverly	13 14.8	17,500 00	–	–	1,331	–
21	11	Methuen	12 87	8,700 00	–	–	676	–
11	12	Saugus	12 65.8	6,000 00	–	–	474	–
19	13	Manchester . . .	11 67.3	2,800 00	–	–	257	–
12	14	Georgetown . . .	11 28.5	4,500 00	126 85	4,626 85	410	–
14	15	Ipswich	11 17	6,000 00	254 97	6,254 97	560	$150 00
15	16	Gloucester	11 13.6	41,895 35	900 22	42,795 57	3,843	–
18	17	Boxford	11 07.4	1,000 00	196 00	1,196 00	108	–
27	18	Lynnfield	10 74.9	1,200 00	68 42	1,268 42	118	–
17	19	Andover	10 74.6	9,500 00	–	–	884	–
25	20	Marblehead . . .	10 68.7	15,500 00	434 24	15,934 24	1,491	250 00
22	21	Danvers	10 54.9	11,150 00	454 00	11,604 00	1,100	–
13	22	Newburyport . . .	10 41.6	25,500 00	654 59	26,154 59	2,511	900 00
20	23	Salisbury	9 92.6	6,200 00	192 57	6,392 57	644	–

ESSEX COUNTY — CONCLUDED.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
16	24	Lawrence	$9 85.5	$60,000 00	–	–	6,088	–
28	25	Wenham	9 62.8	1,350 00	$75 00	$1,425 00	148	–
24	26	Amesbury	9 40.8	6,200 00	168 96	6,368 96	677	–
33	27	Essex	9 09.8	2,500 00	302 14	2,802 14	308	–
23	28	West Newbury	8 89.3	3,326 12	–	–	374	–
26	29	Groveland	8 43.0	3,600 00	–	–	433	–
30	30	Middleton	8 24.1	1,500 00	90 53	1,590 53	193	–
31	31	Newbury	7 49.5	1,700 00	98 92	1,798 92	240	–
32	32	Hamilton	7 48.4	1,000 00	85 24	1,085 24	145	–
29	33	Rowley	7 36.8	1,500 00	98 94	1,598 94	217	–
35	34	Rockport	7 25.7	5,530 35	–	–	762	$80 00
34	35	Topsfield	5 85.9	1,200 00	117 87	1,317 87	225	–

FRANKLIN COUNTY.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	GREENFIELD	$17 16.3	$10,000 00	$229 35	$10,229 35	596	–
2	2	Shelburne	12 76.1	3,283 00	73 25	3,356 25	263	–
4	3	Charlemont	12 10	1,500 00	60 90	1,560 90	129	–
13	4	Erving	10 26	1,200 00	82 50	1,282 50	125	–
7	5	Montague	9 91.7	6,000 00	–	–	605	–
6	6	Orange	9 64.5	3,809 00	–	–	394	–
9	7	Sunderland	9 62.7	1,500 00	59 51	1,559 51	162	–
3	8	Northfield	9 52.1	2,500 00	175 27	2,675 27	281	–
12	9	Heath	9 26	1,000 00	–	–	108	–

5	10	Deerfield	$8 79.7	$5,125 00	$153 50	$5,278 50	600	–
15	11	Ashfield	8 73.9	1,750 00	50 25	1,800 25	206	$462 00
8	12	Conway	8 14.1	2,100 00	146 79	2,246 79	276	85 00
10	13	Wendell	8 12.6	700 00	39 45	739 45	91	–
14	14	Warwick	7 81.2	1,000 00	–	–	128	–
20	15	New Salem	7 77.3	1,000 00	33 85	1,033 85	133	–
11	16	Hawley	7 29.9	1,000 00	–	–	137	24 00
17	17	Leverett	7 29.5	806 16	47 45	853 61	117	–
22	18	Rowe	6 93	700 00	41 55	741 55	107	–
18	19	Gill	6 89.6	800 00	–	–	116	256 00
16	20	Shutesbury	6 57.2	700 00	29 50	729 50	111	–
24	21	Colrain	6 29.4	1,800 00	–	–	286	530 00
19	22	Whately	6 27.7	1,200 00	61 60	1,261 60	201	–
23	23	Leyden	5 83.3	700 00	–	–	120	–
25	24	Buckland	4 57.5	1,800 00	117 05	1,917 05	419	–
21	25	Bernardston	4 31.4	733 34	–	–	170	–
26	26	Monroe	3 70.4	200 00	–	–	54	–
		HAMPDEN COUNTY.						
1	1	SPRINGFIELD	$16 46.5	$88,500 00	–	–	5,375	–
3	2	Westfield	14 04.7	19,125 00	$696 48	$19,821 48	1,411	–
2	3	Longmeadow	13 41.9	3,300 00	148 80	3,448 80	257	–
4	4	West Springfield . . .	10 62.6	7,000 00	395 78	7,395 78	696	–
6	5	Montgomery	10 20.4	500 00	–	–	49	$50 00
5	6	Chicopee	10 08.2	19,307 00	–	–	1,915	–
15	7	Holyoke	9 47.3	23,200 00	700 24	23,900 24	2,523	–
11	8	Ludlow	8 86.3	1,900 00	147 40	2,047 40	231	–
12	9	Monson	8 77	5,000 00	305 76	5,305 76	605	–
7	10	Agawam	7 97.8	3,000 00	–	–	376	–

HAMPDEN COUNTY — CONCLUDED.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
10	11	Brimfield	$7 52.4	$1,700 00	–	–	226	–
13	12	Wilbraham	7 50.6	3,000 00	$227 77	$3,227 77	430	–
8	13	Palmer	7 44.6	6,500 00	298 56	6,798 56	913	–
16	14	Granville	7 27.5	1,800 00	156 96	1,956 96	269	$30 00
14	15	Russell	7 13	800 00	48 48	848 48	119	–
18	16	Chester	6 95	1,800 00	–	–	259	–
19	17	Wales	6 71.9	800 00	73 44	873 44	130	–
17	18	Tolland	6 62.2	500 00	62 88	562 88	85	221 00
9	19	Blandford	6 40.4	1,200 00	112 80	1,312 80	205	993 00
21	20	Southwick	5 41.6	1,000 00	99 36	1,099 36	203	–
20	21	Holland	3 73.1	200 00	20 16	220 16	59	–

HAMPSHIRE COUNTY.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
2	1	SOUTH HADLEY	$14 88.6	$8,500 00	$118 91	$8,618 91	579	–
4	2	Amherst	10 97.6	7,361 93	123 45	7,485 38	682	–
1	3	Greenwich	10 93.2	900 00	29 23	929 23	85	–
3	4	Northampton	10 81.9	21,550 00	553 19	22,103 19	2,043	–
6	5	Granby	10 38	1,500 00	36 33	1,536 33	148	–
9	6	Belchertown	9 55.5	4,500 00	115 22	4,615 22	483	–
12	7	Chesterfield	9 03.1	900 00	256 00	1,156 00	128	$330 75
17	8	Plainfield	9 02.4	600 00	13 62	613 62	68	–
8	9	Westhampton	7 70.1	1,000 00	16 58	1,016 58	132	–
5	10	Easthampton	7 64.2	6,500 00	140 96	6,640 96	869	–

7	11	Huntington	$7 52.8	$1,400 00	$60 45	$1,460 45	194	–
18	12	Worthington	7 27.2	800 00	188 98	988 98	136	$530 00
20	13	Pelham	7 18.5	700 00	40 02	740 02	103	–
14	14	Enfield	7 02.7	1,300 00	–	–	185	–
10	15	Southampton	6 93.6	1,250 00	81 73	1,331 73	192	–
11	16	Cummington	6 56.6	1,000 00	30 94	1,030 94	157	–
15	17	Middlefield	6 54	850 00	125 00	975 00	149	–
16	18	Hadley	6 28	2,750 00	–	–	438	–
19	19	Hatfield	6 21.5	1,800 00	70 81	1,870 81	301	–
21	20	Williamsburg	6 15.6	2,800 00	86 94	2,886 94	469	–
13	21	Ware	5 88.9	5,500 00	–	–	934	–
23	22	Prescott	4 69.8	450 00	38 56	488 56	104	–
22	23	Goshen	4 54.5	350 00	–	–	77	–

MIDDLESEX COUNTY.

2	1	ARLINGTON	$25 51.6	$21,000 00	–	–	823	–
1	2	Newton	24 05.3	67,989 35	$1,308 72	$69,298 07	2,881	–
3	3	Winchester	21 31.4	12,000 00	–	–	563	–
6	4	Medford	20 72.6	24,478 00	–	–	1,181	–
11	5	Lexington	20 55.1	9,700 00	–	–	472	–
5	6	Cambridge	19 55.4	160,691 48	–	–	8,218	–
7	7	Belmont	19 46.4	8,000 00	–	–	411	–
4	8	Watertown	18 94.7	16,105 41	–	–	850	$35 00
13	9	Reading	18 72.2	8,500 00	–	–	454	–
8	10	Concord	18 43.5	8,775 00	–	–	476	–
9	11	Weston	18 11.6	3,641 37	–	–	201	–
10	12	Somerville	17 86.4	74,260 00	–	–	4,157	–
14	13	Melrose	17 40.9	12,500 00	–	–	718	–
12	14	Malden	17 06.7	35,500 00	–	–	2,080	–
15	15	Boxborough	15 54.3	743 07	34 07	777 14	50	–

MIDDLESEX COUNTY — CONTINUED.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
19	16	Stoneham	$15 29.1	$13,900 00	–	–	909	–
21	17	Lowell	14 92.9	112,565 00	–	–	7,540	–
18	18	Framingham	14 85.3	13,750 00	$761 52	$14,511 52	977	–
16	19	Waltham	14 75.6	28,432 72	415 25	28,847 97	1,955	–
17	20	Everett	14 33.2	10,000 00	376 65	10,376 65	724	–
20	21	Lincoln	13 33.3	2,000 00	–	–	150	–
22	22	Dracut	13 20.9	2,400 00	175 83	2,575 83	195	–
43	23	Tyngsborough	12 94.5	1,125 00	53 01	1,178 01	91	–
25	24	Groton	12 82.1	5,000 00	–	–	390	–
40	25	Dunstable	12 78.1	800 00	43 52	843 52	66	–
27	26	Woburn	12 78.1	26,992 83	–	–	2,112	–
28	27	Carlisle	12 34.4	800 00	76 45	876 45	71	–
26	28	Sudbury	12 09.7	2,400 00	104 00	2,504 00	207	$2 00
33	29	Bedford	11 90.5	2,000 00	–	–	168	–
32	30	Shirley	11 83.6	1,800 00	153 00	1,953 00	165	–
31	31	Holliston	11 49.7	6,300 00	219 06	6,519 06	567	–
39	32	Wayland	11 44	3,750 00	139 65	3,889 65	340	–
34	33	North Reading	11 39.2	1,800 00	–	–	158	–
23	34	Littleton	11 37.7	2,019 33	108 25	2,127 58	187	–
24	35	Sherborn	11 22.1	2,000 00	64 61	2,064 61	184	–
38	36	Chelmsford	11 03.8	5,500 00	228 78	5,728 78	519	–
30	37	Wakefield	10 80.5	11,000 00	–	–	1,018	–
29	38	Tewksbury	10 72.5	2,000 00	155 68	2,155 68	201	–
42	39	Westford	10 00	3,000 00	–	–	300	–
51	40	Hudson	9 92.3	6,850 00	145 92	6,995 92	705	–
37	41	Ashland	9 90	4,000 00	395 70	4,395 70	444	–

41	42	Wilmington	$9 89.5	$1,550 00	$82 65	$1,632 65	165	–
35	43	Ashby	9 75.5	1,300 00	114 57	1,414 57	145	–
48	44	Natick	9 56.9	16,000 00	–	–	1,672	–
36	45	Burlington	9 52.4	1,000 00	–	–	105	–
46	46	Townsend	9 39.3	3,250 00	–	–	346	$150 00
45	47	Acton	9 24.5	2,500 00	171 86	2,671 86	289	–
44	48	Stow	9 11.1	1,600 00	103 79	1,703 79	187	–
52	49	Ayer	9 04	3,200 00	–	–	354	–
49	50	Billerica	8 87.6	3,000 00	–	–	338	22 50
47	51	Hopkinton	8 66	9,000 00	438 90	9,438 90	1,090	–
53	52	Marlborough	8 16.1	15,800 00	–	–	1,936	–
54	53	Maynard	7 63	3,200 00	126 67	3,326 67	436	–
50	54	Pepperell	7 34.5	2,600 00	–	–	354	–

NANTUCKET COUNTY.

		NANTUCKET	$9 72	$6,250 00	–	–	643	–

NORFOLK COUNTY.

1	1	BROOKLINE	$27 84	$37,000 00	–	–	1,329	–
2	2	Milton	26 80.4	13,000 00	–	–	485	–
4	3	Dedham	17 59.7	20,500 74	–	–	1,165	–
5	4	Needham	16 78.4	14,500 00	$387 12	$14,887 12	887	–
3	5	Walpole	16 18.1	5,000 00	–	–	309	$50 00
6	6	Norwood	15 62.5	6,500 00	–	–	416	–
12	7	Hyde Park	14 48.3	18,900 00	–	–	1,305	–

NORFOLK COUNTY — CONCLUDED.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
9	8	Wrentham	$13 96.2	$5,500 00	$280 33	$5,780 33	414	–
8	9	Quincy	13 94.2	25,500 00	–	–	1,829	–
10	10	Holbrook	13 62.4	5,000 00	–	–	367	–
7	11	Medfield	13 02.2	2,682 60	–	–	206	–
14	12	Weymouth	12 84	23,800 00	1,367 28	25,167 28	1,960	–
11	13	Canton	12 73.6	11,000 00	526 23	11,526 23	905	$40 00
17	14	Randolph	12 48.4	9,550 00	–	–	765	–
13	15	Foxborough . . .	12 14.5	6,000 00	–	–	494	–
16	16	Dover	11 52.9	1,100 00	99 01	1,199 01	104	17 00
15	17	Cohasset	11 51.5	5,000 00	216 38	5,216 38	453	–
20	18	Braintree	10 98.9	7,350 00	385 96	7,735 96	704	–
18	19	Stoughton	10 25.5	10,101 67	–	–	985	–
19	20	Franklin	9 95	6,000 00	–	–	603	–
23	21	Norfolk	9 93.6	1,600 00	108 91	1,708 91	172	–
22	22	Medway	9 65.7	7,500 00	360 42	7,860 42	814	–
21	23	Bellingham . . .	8 76.9	1,800 00	260 77	2,060 77	235	–
24	24	Sharon	7 77.6	2,000 00	130 70	2,130 70	274	–

PLYMOUTH COUNTY.

For 1876-77.	For 1877-78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
3	1	HULL	$16 30.4	$750 00	–	–	46	–
4	2	Plymouth	15 98.5	16,800 00	–	–	1,051	–
2	3	Hingham	14 23.2	11,100 87	–	–	780	–
1	4	Kingston	13 79.3	3,200 00	–	–	232	–

11	5	Marshfield	$13 50.9	$2,800 00	$171 87	$2,971 87	220	–
6	6	Brockton	12 26.1	25,821 00	418 60	26,239 60	2,140	–
7	7	East Bridgewater . .	11 85.9	5,000 00	194 08	5,194 08	438	–
5	8	Bridgewater . . .	11 81.2	8,200 00	340 00	8,540 00	723	$500 00
12	9	Mattapoisett . . .	11 76.9	2,100 00	77 30	2,177 30	185	–
13	10	Abington	11 39.6	7,000 00	281 86	7,281 86	639	–
8	11	Halifax	10 39	800 00	–	–	77	–
9	12	Lakeville	10 00	2,100 00	–	–	210	–
17	13	Middleborough . . .	10 00	9,000 00	–	–	900	–
10	14	South Abington . . .	9 82.1	4,000 00	223 15	4,223 15	430	–
14	15	South Scituate . . .	9 33.5	3,000 00	136 48	3,136 48	336	–
20	16	Pembroke	9 22.6	2,000 00	158 87	2,158 87	234	–
15	17	Wareham	8 82.9	5,200 00	300 89	5,500 89	623	–
19	18	Duxbury	8 53.7	3,000 00	209 94	3,209 94	376	–
16	19	Hanover	8 47.9	2,750 00	133 00	2,883 00	340	–
18	20	West Bridgewater . .	8 28.2	2,500 00	224 74	2,724 74	329	–
21	21	Hanson	7 91.8	1,600 00	102 45	1,702 45	215	–
23	22	Rockland	7 54.3	7,000 00	–	–	928	–
25	23	Marion	7 40.4	1,000 00	73 51	1,073 51	145	–
22	24	Scituate	7 37	3,450 00	161 29	3,611 29	490	–
27	25	Rochester	6 87.5	1,200 00	113 16	1,313 16	191	–
26	26	Plympton	6 79.1	1,000 00	113 69	1,113 69	164	–
24	27	Carver	6 60	1,200 00	133 28	1,333 28	202	–

SUFFOLK COUNTY.

1	1	BOSTON	$22 40.4	$1,279,705 14	$20,482 85	$1,300,187 99	58,034	–
2	2	Chelsea	17 98.7	57,000 00	–	–	3,169	–
3	3	Winthrop	13 21.9	1,700 00	58 10	1,758 10	133	–
4	4	Revere	10 47.6	3,500 00	–	–	315	–

WORCESTER COUNTY.

For 1876–77.	For 1877–78.	TOWNS.	Sum appropriated by towns for each child between 5 and 15 yrs. of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	LANCASTER	$19 74.7	$5,549 00	–	–	281	–
7	2	New Braintree . . .	17 46.5	1,676 62	–	–	96	–
3	3	Barre	16 14.2	5,100 00	$210 67	$5,310 67	329	–
2	4	Fitchburg	15 15.3	31,300 00	–	–	2,065	–
10	5	Petersham	13 92.3	2,500 00	103 58	2,603 58	187	–
4	6	Worcester	13 69.3	124,566 27	–	–	9,097	–
5	7	Northborough . . .	13 65.5	3,250 00	–	–	238	$110 31
19	8	Uxbridge	13 09.8	6,300 00	–	–	481	–
6	9	Athol	13 03.4	7,000 00	285 73	7,285 73	559	–
8	10	Upton	13 03	4,300 00	–	–	330	–
9	11	Southborough . . .	12 78.8	4,500 00	91 00	4,591 00	359	–
11	12	Sterling	12 06	3,200 00	152 12	3,352 12	278	–
29	13	Warren	11 14.2	5,000 00	203 16	5,203 16	467	–
21	14	Paxton	11 09.6	1,309 30	–	–	118	–
41	15	Grafton	10 93.3	8,560 48	–	–	783	15 00
16	16	Shrewsbury . . .	10 87	3,000 00	–	–	276	120 00
18	27	Westminster . . .	10 86.9	2,750 00	–	–	253	–
25	18	Westborough . . .	10 79.3	8,300 00	–	–	769	–
22	19	Northbridge . . .	10 66.4	7,850 00	233 54	8,083 54	758	–
23	20	Templeton	10 59.9	4,700 60	165 13	4,865 13	459	–
12	21	Brookfield	10 59	4,650 00	210 00	4,860 00	459	50 00
20	22	Gardner	10 53.3	6,500 00	262 21	6,762 21	642	–
38	23	Princeton	10 40.3	1,700 00	110 09	1,810 09	174	–
17	24	Leominster	10 37.6	8,550 00	–	–	824	–
27	25	Boylston	10 35.7	1,500 00	95 00	1,595 00	154	20 00
26	26	Harvard	10 12.6	2,400 00	–	–	237	–

15	27	Rutland	$9 95	$2,000 00	–	–	201	–
32	28	Hubbardston . . .	9 92	2,500 00	–	–	252	–
13	29	Leicester	9 79.5	5,000 00	$328 26	$5,328 26	544	–
24	30	Clinton	9 73.5	14,738 39	–	–	1,514	–
37	31	North Brookfield . .	9 50.6	7,000 00	262 21	7,262 21	764	–
14	32	Lunenburg	9 49.5	1,600 00	80 60	1,680 60	177	–
40	33	Royalston	9 44	1,800 00	88 07	1,888 07	200	–
46	34	Ashburnham . . .	9 06.4	3,000 00	118 09	3,118 09	344	–
30	35	Oxford	9 03.6	4,500 00	–	–	498	–
34	36	Phillipston	8 69.3	1,000 00	86 57	1,086 57	125	–
45	37	Milford	8 48.2	18,600 00	–	–	2,193	–
28	38	Charlton	8 35.7	2,732 71	–	–	327	–
31	39	Douglas	8 13.8	3,300 00	231 68	3,531 68	434	–
35	40	Webster	8 10.2	6,300 00	246 20	6,546 20	808	–
49	41	Dudley	7 99.3	4,500 00	–	–	563	–
42	42	West Brookfield . . .	7 93.6	3,000 00	–	–	378	–
47	43	Millbury	7 61.7	7,000 00	–	–	919	–
54	44	Spencer	7 39.5	8,800 00	–	–	1,190	–
36	45	Mendon	7 37.6	1,500 00	174 30	1,674 30	227	–
48	46	Blackstone	7 36	6,900 00	254 20	7,154 20	972	–
33	47	Sturbridge	7 21.2	3,000 00	–	–	416	$30 00
43	48	Southbridge . . .	7 00.1	9,780 00	–	–	1,397	–
39	49	Dana	6 92.7	700 00	55 04	755 04	109	–
52	50	Oakham	6 80.6	900 00	114 09	1,014 09	149	–
53	51	Berlin	6 57.1	1,100 00	102 58	1,202 58	183	–
55	52	Sutton	6 56.9	4,000 00	190 94	4,190 94	638	–
51	53	Bolton	6 55.7	1,200 00	–	–	183	–
57	54	West Boylston . . .	6 12.2	3,300 00	220 18	3,520 18	575	–
56	55	Holden	6 11.6	2,700 00	247 70	2,947 70	482	–
44	56	Winchendon . . .	6 02.9	4,365 36	–	–	724	–
58	57	Auburn	5 86	1,500 00	–	–	256	–
50	58	Hardwick	5 15.2	2,000 00	143 11	2,143 11	416	–

GRADUATED TABLES—FIRST SERIES.

Showing the Comparative Amount of Money appropriated by the different Counties in the State for the Education of each Child between the ages of 5 and 15 years in the County.

For 1876-77.	For 1877-78.	COUNTIES.	Sum appropriated by Counties for each Child between 5 and 15 years of age.	Amount raised by taxes for the support of Schools.	Income of Funds, with Dog Tax, appropriated to Schools.	TOTAL.	No. of Children between 5 and 15 years of age.	Amount contributed for board and fuel.
1	1	SUFFOLK	$22 09.9	$1,341,905 14	$20,540 95	$1,362,446 09	61,651	–
2	2	Middlesex	15 70.5	800,068 56	5,998 11	806,066 67	51,325	$209 50
3	3	Norfolk	14 61.1	246,885 01	4,123 11	251,008 12	17,180	107 00
5	4	Essex	12 52.1	496,348 67	7,152 03	503,500 70	40,213	1,380 00
4	5	Hampden	11 85.2	190,132 00	3,494 87	193,626 87	16,336	1,294 00
6	6	Bristol	11 50.7	265,975 00	3,808 17	269,783 17	23,446	–
10	7	Plymouth	10 84.6	133,571 87	3,568 16	137,140 03	12,644	500 00
8	8	Worcester	10 59.4	406,328 13	5,066 05	411,394 18	38,831	345 31
9	9	Barnstable	10 55.7	61,850 00	847 91	62,697 91	5,939	104 50
7	10	Nantucket	9 72	6,250 00	–	–	643	–
12	11	Franklin	9 14.9	52,897 50	1,401 77	54,299 27	5,935	1,357 00
11	12	Hampshire	8 82.5	74,261 93	2,126 82	76,388 75	8,656	860 75
13	13	Dukes	8 73.4	6,315 00	–	–	723	–
14	14	Berkshire	8 14.5	108,721 96	2,705 63	111,427 59	13,680	1,852 70

AGGREGATE FOR THE STATE.

STATE	$14 30.8	$4,191,510 77	$60,833 58	$4,252,344 35	297,202	$8,010 76

GRADUATED TABLES — FIRST SERIES.

Showing the Comparative Amount of Money, including Voluntary Contributions, appropriated by the different Counties in the State for the Education of each Child between the ages of 5 and 15 years in the County.

For 1876–77.	For 1877–78.	COUNTIES.	TOTALS.
1	1	SUFFOLK	$22 09.9
2	2	Middlesex	15 70.9
3	3	Norfolk	14 61.7
5	4	Essex	12 55.5
4	5	Hampden	11 93.2
6	6	Bristol	11 50.7
10	7	Plymouth	10 88.6
8	8	Worcester	10 60.3
9	9	Barnstable	10 57.5
7	10	Nantucket	9 72
12	11	Franklin	9 37.8
11	12	Hampshire	8 92.4
13	13	Dukes	8 73.4
14	14	Berkshire	8 28.1
Aggregate for the State			$14 33.5

GRADUATED TABLES — Second Series.

The next Table exhibits the appropriation of the cities and towns, as compared with their respective valuations in 1877.

The first column shows the rank of the cities and towns in a similar Table for 1876-77, according to their valuation in 1876.

The second column indicates, in numerical order, the precedence of the cities and towns in respect to the liberality of their appropriations for 1877-78, according to their valuation in 1877.

The third consists of the names of the cities and towns, as numerically arranged.

The fourth shows the percentage of taxable property appropriated to the support of the Public Schools. The result is equivalent in value to mills and hundredths of mills. The decimals are carried to three figures, in order to indicate more perfectly the distinction between the different towns. The first figure (mills) expresses the principal value, and is separated from the last two figures by a point.

The appropriations for schools are not given in the following Table, as they may be found by referring to the previous Tables; also in the Abstract of School Returns, commencing on page ii. These appropriations include the sum raised by taxes, the income of the surplus revenue, and of such other funds as the town may appropriate at their option, either to support Common Schools, or to pay ordinary municipal expenses. The income of other local funds, and the voluntary contributions, are not included in the estimate. The appropriations are reckoned the same as in the first series of Tables, and for the same reasons.

The amount of taxable property, in each city and town, according to the last State Valuation, is also omitted, as it is already given in the foregoing Abstract of School Returns.

If the rank assigned to towns in the next Tables is compared with the rank of the same town in the former series, it will be seen that they hold, in many instances, a very different place in the scale.

GRADUATED TABLES — SECOND SERIES.

[FOR THE STATE.]

A Graduated Table, in which all the Towns in the State are numerically arranged, according to the percentage of their taxable property, appropriated to the support of Public Schools, for the year 1877–78.

For 1876–77, by the State Valuation of 1876.	For 1877–78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
342	1	GAY HEAD . .	$.007-23
5	2	Truro . .	6–90
1	3	Hawley . .	6–59
10	4	Eastham .	6–47
4	5	Orleans . .	5–99
3	6	Sandwich .	5–99
6	7	Wellfleet .	5–88
9	8	Heath . .	5–56
2	9	Chatham .	5–32
7	10	Wareham .	5–31
13	11	South Hadley .	5–28
8	12	Holbrook .	5–23
15	13	Amesbury .	5–20
14	14	Granville .	5–09
11	15	Harwich .	5–05
25	16	Dudley . .	5–02
34	17	Mashpee .	5–01
33	18	Haverhill .	4–97
12	19	Wrentham .	4–93
18	20	Upton . .	4–90
22	21	Otis . .	4–79
61	22	Cheshire .	4–77
26	23	Charlemont .	4–76
89	24	Belchertown .	4–74
21	25	Marlborough .	4–59
82	26	Natick . .	4–58
185	27	Grafton . .	4–56
32	28	Templeton .	4–55
53	29	Brockton .	4–54
19	30	Northbridge .	4–54
43	31	Adams . .	4–52
29	32	Rehoboth .	4–52
44	33	Weymouth .	4–52
54	34	Randolph .	$.004-49
39	35	Wendell. .	4–49
27	36	Pelham . .	4–48
45	37	Erving . .	4–47
31	38	Gloucester .	4–45
17	39	Stoneham .	4–42
157	40	New Marlboro'	4–40
37	41	Bradford .	4–36
64	42	Paxton . .	4–34
16	43	Merrimac .	4–31
105	44	Groveland .	4–30
111	45	Marblehead .	4–30
139	46	Milford . .	4–26
71	47	Swansea .	4–26
42	48	Monroe . .	4–24
41	49	E. Bridgew'r .	4–23
36	50	Hopkinton .	4–23
24	51	Bridgewater .	4–21
28	52	Stoughton .	4–20
23	53	Shelburne .	4–15
20	54	Shutesbury .	4–15
40	55	Deerfield .	4–14
55	56	Rowe . .	4–14
58	57	Barnstable .	4–12
97	58	Petersham .	4–12
81	59	Plymouth .	4–11
46	60	Medway . .	4–09
47	61	Rutland . .	4–09
68	62	Sunderland .	4–09
100	63	Abington .	4–08
30	64	Lakeville .	4–07
79	65	Greenfield .	4–05
48	66	Mansfield .	4–05

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
62	67	No. Reading	$.004-05	112	117	Uxbridge	$.003-59
150	68	Ludlow	4–03	127	118	Leyden	3–57
91	69	Brewster	4–01	154	119	Middleboro'	3–57
59	70	Franklin	3–99	114	120	Saugus	3–57
74	71	No. Andover	3–99	104	121	Buckland	3–56
77	72	Chesterfield	3–98	210	122	Plainfield	3–56
96	73	Chelmsford	3–97	65	123	Greenwich	3–55
63	74	Bellingham	3–96	128	124	Monterey	3–55
56	75	Georgetown	3–96	179	125	New Braintree,	3–55
92	76	Lee	3–94	78	126	Peabody	3–54
51	77	Chicopee	3–91	121	127	Southborough,	3–54
191	78	Methuen	3–91	52	128	Fairhaven	3–53
50	79	Brookfield	3–90	120	129	Brimfield	3–52
75	80	Warwick	3–90	117	130	Malden	3–52
113	81	Sandisfield	3–89	160	131	Clinton	3–51
129	82	Tyngsborough,	3–89	49	132	Douglas	3–51
67	83	Provincetown	3–88	124	133	Holliston	3–51
85	84	Monson	3–86	109	134	Norwood	3–50
98	85	Hudson	3–85	132	135	Blackstone	3–47
70	86	Northfield	3–85	178	136	Chelsea	3–47
80	87	Westhampton,	3–85	58	137	Palmer	3–45
83	88	No. Brookfield,	3–84	90	138	Longmeadow	3–43
102	89	Washington	3–84	84	139	Newburyport	3–42
123	90	Arlington	3–83	115	140	Wilbraham	8–42
118	91	Norfolk	3–83	130	141	Becket	3–41
119	92	Ashfield	3–82	108	142	Hingham	3–41
95	93	Foxborough	3–82	140	143	Ipswich	3–41
122	94	Chester	3–80	133	144	Acushnet	3–40
156	95	Pembroke	3–79	134	145	Ashland	3–40
60	96	Salisbury	3–78	135	146	Hanson	3–40
228	97	Westport	3–78	240	147	Wayland	3–40
76	98	W. Brookfield,	3–77	149	148	Webster	3–40
136	99	Phillipston	3–75	142	149	Quincy	3–37
110	100	Attleborough	3–73	209	150	Granby	3–36
69	101	Canton	3–72	38	151	Ware	3–34
153	102	Dennis	3–71	174	152	Westborough	3–34
222	103	Tisbury	3–71	251	153	W. Stockb'ge,	3–33
35	104	Walpole	3–70	288	154	Hyde Park	3–31
197	105	Clarksburg	3–69	172	155	W. Boylston	3–31
86	106	Plympton	3–69	152	156	Danvers	3–30
72	107	Blandford	3–67	126	157	Barre	3–29
67	108	Montgomery	3–65	161	158	Sterling	3–28
125	109	Dedham	3–63	144	159	Gardner	3–27
88	110	Florida	3–63	148	160	Oxford	3–27
101	111	So. Scituate	3–62	205	161	Essex	3–25
87	112	Berkley	3–60	131	162	Townsend	3–25
106	113	Reading	3–60	162	163	Westminster	3–25
99	114	Dighton	3–59	187	164	Southbridge	3–24
196	115	Lexington	3–59	216	165	Needham	3–23
73	116	Rockland	3–59	169	166	Andover	3–22

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
94	167	Conway	$.003-22	235	217	Cambridge	$.002-88
171	168	Hinsdale	3–22	175	218	Hanover	2–88
189	169	Ayer	3–21	183	219	Springfield	2–88
167	170	New Salem	3–21	193	220	Wilmington	2–88
107	171	W. Newbury	3–21	295	221	Lanesborough,	2–87
214	172	Auburn	3–20	224	222	Oakham	2–87
93	173	Boxborough	3–19	249	223	Raynham	2–87
163	174	Winchester	3–19	233	224	Sutton	2–87
282	175	Spencer	3–18	247	225	Lowell	2–85
208	176	Ashburnham	3–17	244	226	Salem	2–84
195	177	Concord	3–17	234	227	Westford	2–84
239	178	Millbury	3–17	200	228	Mt. Washingt'n,	2–83
166	179	Yarmouth	3–17	220	229	Seekonk	2–80
192	180	Middleton	3–16	294	230	Rockport	2–79
138	181	Peru	3–16	221	231	Scituate	2–79
143	182	Rowley	3–16	230	232	Dartmouth	2–78
146	183	Framingham	3–15	242	233	Leverett	2–77
147	184	Huntington	3–15	243	234	Rochester	2–77
176	185	Lynn	3–15	180	235	Wakefield	2–77
227	186	Freetown	3–11	231	236	Dracut	2–76
232	187	Pittsfield	3–11	155	237	Sturbridge	2–76
165	188	Woburn	3–11	194	238	Charlton	2–74
158	189	Easton	3–10	215	239	Lancaster	2–74
168	190	W. Bridgew'r,	3–09	283	240	Royalston	2–74
202	191	Williamstown,	3–08	226	241	Cummington	2–73
238	192	Medford	3–07	262	242	Worcester	2–73
211	193	Amherst	3–06	245	243	Orange	2–72
159	194	Colrain	3–06	182	244	Southampton	2–72
229	195	Duxbury	3–06	265	245	Northborough,	2–71
213	196	Lenox	3–06	190	246	Dover	2–70
181	197	Waltham	3–05	271	247	Taunton	2–69
203	198	Boylston	3–03	284	248	Tyringham	2–69
188	199	Marshfield	3–02	253	249	Westfield	2–69
237	200	Holden	3–01	204	250	Dana	2–68
141	201	Leicester	3–00	264	251	New Bedford	2–68
268	202	Williamsburg,	2–99	269	252	Braintree	2–67
186	203	Melrose	2–98	255	253	Shrewsbury	2–65
207	204	Middlefield	2–98	201	254	W. Springfield,	2–65
241	205	Dunstable	2–97	250	255	Agawam	2–63
177	206	Sheffield	2–95	212	256	Halifax	2–63
218	207	Montague	2–94	270	257	Medfield	2–63
170	208	Swampscott	2–94	254	258	Warren	2–63
103	209	Ashby	2–93	266	259	Somerset	2–62
184	210	Fitchburg	2–93	248	260	Harvard	2–61
137	211	Northampton	2–92	206	261	Mendon	2–61
173	212	Easthampton	2–91	219	262	Tewksbury	2–61
246	213	Somerville	2–91	261	263	Newton	2–60
223	214	Hubbardston	2–89	272	264	Wenham	2–59
151	215	So. Abington	2–89	279	265	Gt. Barrington,	2–59
252	216	Worthington	2–89	305	266	Maynard	2–58

For 1876-78, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
116	267	Windsor	$.002-58	312	306	Beverly	$.002-10
260	268	Nantucket	2–57	324	307	Princeton	2–10
225	269	Athol	2–56	332	308	Chilmark	2–09
259	270	Lincoln	2–55	164	309	Littleton	2–09
300	271	Holyoke	2–54	310	310	Boxford	2–08
145	272	Shirley	2–54	298	311	Burlington	2–07
301	273	Prescott	2–53	304	312	Falmouth	2–07
263	274	Lawrence	2–51	315	313	Newbury	2–07
198	275	Norton	2–51	286	314	Pepperell	2–06
267	276	Berlin	2–48	317	315	Sharon	2–06
257	277	Sudbury	2–48	306	316	Hadley	2–03
289	278	Tolland	2–48	311	317	Egremont	2–02
281	279	Bolton	2–47	316	318	Fall River	1–94
236	280	Carver	2–45	319	319	Stockbridge	1–92
296	281	Marion	2–45	313	320	Billerica	1–90
275	282	Carlisle	2–44	322	321	Boston	1–89
303	283	Belmont	2–41	318	322	Southwick	1–88
287	284	Goshen	2–41	320	323	Hamilton	1–82
273	285	Groton	2–40	274	324	Bernardston	1–81
293	286	Bedford	2–38	335	325	Hancock	1–80
285	287	Dalton	2–37	327	326	Topsfield	1–80
290	288	Weston	2–33	326	327	Winthrop	1–80
280	289	Kingston	2–29	328	328	Gill	1–73
276	290	Everett	2–28	321	329	Hatfield	1–71
291	291	Stow	2–28	199	330	Holland	1–69
302	292	Leominster	2–26	325	331	Revere	1–66
292	293	Sherborn	2–26	333	332	Richmond	1–66
256	294	Savoy	2–22	330	333	Alford	1–63
277	295	Lunenburg	2–21	331	334	Manchester	1–60
314	296	Whately	2–21	338	335	New Ashford	1–58
323	297	Lynnfield	2–19	336	336	Brookline	1–48
258	298	Winchendon	2–18	334	337	Milton	1–47
299	299	Acton	2–17	339	338	Mattapoisett	1–46
309	300	Wales	2–17	329	339	Edgartown	1–41
297	301	Cohasset	2–16	337	340	Gosnold	1–09
217	302	Hardwick	2–16	340	341	Hull	0–99
278	303	Watertown	2–16	341	342	Nahant	0–64
308	304	Russell	2–13		343	Hampden *	–
307	305	Enfield	2–12		344	No. Adams *	–

* New towns; returns included in other towns.

GRADUATED TABLES — SECOND SERIES.

[COUNTY TABLES.]

In which all the Towns in the respective Counties in the State are numerically arranged, according to the percentage of their taxable property, appropriated for the support of Public Schools, for the year 1877–78.

BARNSTABLE COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
4	1	**TRURO**	$.006-90	8	8	Mashpee	$.005-01
6	2	Eastham	6-47	9	9	Barnstable	4-12
3	3	Orleans	5-99	11	10	Brewster	4-01
2	4	Sandwich	5-99	10	11	Provincetown	3-88
5	5	Wellfleet	5-88	12	12	Dennis	3-71
1	6	Chatham	5-32	13	13	Yarmouth	3-17
7	7	Harwich	5-05	14	14	Falmouth	2-07

BERKSHIRE COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
1	1	**OTIS**	$.004-79	18	17	Lenox	3-06
3	2	Cheshire	4-77	14	18	Sheffield	2-95
2	3	Adams	4-52	25	19	Lanesborough,	2-87
12	4	N. Marlboro'	4-40	16	20	Mt. Wash'gton,	2-83
5	5	Lee	3-94	23	21	Tyringham	2-69
7	6	Sandisfield	3-89	22	22	Gt. Barrington,	2-59
6	7	Washington	3-84	8	23	Windsor	2-58
15	8	Clarksburg	3-69	24	24	Dalton	2-37
4	9	Florida	3-63	21	25	Savoy	2-22
9	10	Monterey	3-55	26	26	Egremont	2-02
10	11	Becket	3-41	27	27	Stockbridge	1-92
20	12	W. Stockb'dge,	3-33	30	28	Hancock	1-80
13	13	Hinsdale	3-22	29	29	Richmond	1-66
11	14	Peru	3-16	28	30	Alford	1-63
19	15	Pittsfield	3-11	31	31	New Ashford	1-58
17	16	Williamstown,	3-08				

BRISTOL COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
1	1	**REHOBOTH**	$.004-52	9	11	Easton	$.003-10
4	2	Swansea	4-26	15	12	Raynham	2-87
2	3	Mansfield	4-05	11	13	Seekonk	2-80
13	4	Westport	3-78	14	14	Dartmouth	2-78
7	5	Attleborough	3-73	18	15	Taunton	2-69
5	6	Berkley	3-60	16	16	New Bedford	2-68
6	7	Dighton	3-59	17	17	Somerset	2-62
3	8	Fairhaven	3-53	10	18	Norton	2-51
8	9	Acushnet	3-40	19	19	Fall River	1-94
12	10	Freetown	3-11				

DUKES COUNTY.

5	1	**GAY HEAD**	$.007-23	2	4	Edgartown	$.001-41
1	2	Tisbury	3-71	4	5	Gosnold	1-09
3	3	Chilmark	2-09				

ESSEX COUNTY.

1	1	**AMESBURY**	$.005-20	12	19	West Newbury,	$.003-21
4	2	Haverhill	4-97	22	20	Middleton	3-16
3	3	Gloucester	4-45	16	21	Rowley	3-16
5	4	Bradford	4-36	20	22	Lynn	3-15
2	5	Merrimac	4-31	19	23	Swampscott	2-94
11	6	Groveland	4-30	24	24	Salem	2-84
13	7	Marblehead	4-30	27	25	Rockport	2-79
8	8	No. Andover	3-99	26	26	Wenham	2-59
6	9	Georgetown	3-96	25	27	Lawrence	2-51
21	10	Methuen	3-91	32	28	Lynnfield	2-19
7	11	Salisbury	3-78	29	29	Beverly	2-10
14	12	Saugus	3-57	28	30	Boxford	2-08
9	13	Peabody	3-54	30	31	Newbury	2-07
10	14	Newburyport	3-42	31	32	Hamilton	1-82
15	15	Ipswich	3-41	33	33	Topsfield	1-80
17	16	Danvers	3-30	34	34	Manchester	1-60
23	17	Essex	3-25	35	35	Nahant	0-64
18	18	Andover	3-22				

FRANKLIN COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
1	1	**HAWLEY**	$.006–59	12	14	Northfield	$.003–85
2	2	Heath	5–56	17	15	Ashfield	3–82
5	3	Charlemont	4–76	18	16	Leyden	3–57
6	4	Wendell	4–49	16	17	Buckland	3–56
9	5	Erving	4–47	15	18	Conway	3–22
8	6	Monroe	4–24	20	19	New Salem	3–21
4	7	Shelburne	4–15	19	20	Colrain	3–06
3	8	Shutesbury	4–15	21	21	Montague	2–94
7	9	Deerfield	4–14	22	22	Leverett	2–77
10	10	Rowe	4–14	23	23	Orange	2–72
11	11	Sunderland	4–09	25	24	Whately	2–21
14	12	Greenfield	4–05	24	25	Bernardston	1–81
13	13	Warwick	3–90	26	26	Gill	1–73

HAMPDEN COUNTY.

1	1	**GRANVILLE**	$.005–09	12	12	Springfield	$.002–88
11	2	Ludlow	4–03	16	13	Westfield	2–69
2	3	Chicopee	3–91	14	14	W. Springfield,	2–65
6	4	Monson	3–86	15	15	Agawam	2–63
10	5	Chester	3–80	18	16	Holyoke	2–54
5	6	Blandford	3–67	17	17	Tolland	2–48
4	7	Montgomery	3–65	20	18	Wales	2–17
9	8	Brimfield	3–52	19	19	Russell	2–13
3	9	Palmer	3–45	21	20	Southwick	1–88
7	10	Longmeadow	3–43	13	21	Holland	1–69
8	11	Wilbraham	3–42				

HAMPSHIRE COUNTY.

1	1	**SOUTH HADLEY**	$.005–28	12	13	Middlefield	$.002–98
7	2	Belchertown	4–74	8	14	Northampton	2–92
2	3	Pelham	4–48	10	15	Easthampton	2–91
5	4	Chesterfield	3–98	17	16	Worthington	2–89
6	5	Westhampton,	3–85	16	17	Cummington	2–73
14	6	Plainfield	3–56	11	18	Southampton	2–72
4	7	Greenwich	3–55	20	19	Prescott	2–53
13	8	Granby	3–36	19	20	Goshen	2–41
3	9	Ware	3–34	22	21	Enfield	2–12
9	10	Huntington	3–15	21	22	Hadley	2–03
15	11	Amherst	3–06	23	23	Hatfield	1–71
18	12	Williamsburg	2–99				

MIDDLESEX COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
2	1	**MARLBOROUGH**	$.004-59	36	28	Somerville	$.002-91
5	2	Natick	4-58	32	29	Cambridge	2-88
1	3	Stoneham	4-42	26	30	Wilmington	2-88
3	4	Hopkinton	4-23	37	31	Lowell	2-85
4	5	No. Reading	4-05	31	32	Westford	2-84
7	6	Chelmsford	3-97	22	33	Wakefield	2-77
14	7	Tyngsborough,	3-89	30	34	Dracut	2-76
8	8	Hudson	3-85	29	35	Tewksbury	2-61
12	9	Arlington	3-83	40	36	Newton	2-60
10	10	Reading	3-60	53	37	Maynard	2-58
28	11	Lexington	3-59	39	38	Lincoln	2-55
11	12	Malden	3-52	17	39	Shirley	2-54
13	13	Holliston	3-51	38	40	Sudbury	2-48
16	14	Ashland	3-40	42	41	Carlisle	2-44
34	15	Wayland	3-40	52	42	Belmont	2-41
15	16	Townsend	3-25	41	43	Groton	2-40
25	17	Ayer	3-21	49	44	Bedford	2-38
6	18	Boxborough	3-19	46	45	Weston	2-33
19	19	Winchester	3-19	43	46	Everett	2-28
27	20	Concord	3-17	47	47	Stow	2-28
18	21	Framingham	3-15	48	48	Sherborn	2-26
21	22	Woburn	3-11	51	49	Acton	2-17
33	23	Medford	3-07	44	50	Watertown	2-16
23	24	Waltham	3-05	20	51	Littleton	2-09
24	25	Melrose	2-98	50	52	Burlington	2-07
35	26	Dunstable	2-97	45	53	Pepperell	2-06
9	27	Ashby	2-93	54	54	Billerica	1-90

NANTUCKET COUNTY.

NANTUCKET . . . . $.002-57

NORFOLK COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
1	1	**HOLBROOK**	$.005-23	14	13	Dedham	$ 003-63
2	2	Wrentham	4-93	12	14	Norwood	3-50
5	3	Weymouth	4-52	15	15	Quincy	3-37
7	4	Randolph	4-49	20	16	Hyde Park	3-31
3	5	Stoughton	4-20	17	17	Needham	3-23
6	6	Medway	4-09	16	18	Dover	2-70
8	7	Franklin	3-99	18	19	Braintree	2-67
9	8	Bellingham	3-96	19	20	Medfield	2-63
13	9	Norfolk	3-83	21	21	Cohasset	2-16
11	10	Foxborough	3-82	22	22	Sharon	2-06
10	11	Canton	3-72	24	23	Brookline	1-48
4	12	Walpole	3-70	23	24	Milton	1-47

PLYMOUTH COUNTY.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
1	1	WAREHAM . .	$.005-31	16	15	W. Bridgew'r,	$.003–09
5	2	Brockton .	4–54	21	16	Duxbury .	3–06
4	3	E. Bridgewater,	4–23	18	17	Marshfield .	3–02
2	4	Bridgewater .	4–21	13	18	So. Abington .	2–89
7	5	Plymouth .	4–11	17	19	Hanover .	2–88
9	6	Abington .	4–08	20	20	Scituate . .	2–79
3	7	Lakeville .	4–07	23	21	Rochester .	2–77
15	8	Pembroke .	3–79	19	22	Halifax . .	2–63
8	9	Plympton .	3–69	22	23	Carver . .	2–45
10	10	South Scituate,	3–62	25	24	Marion . .	2–45
6	11	Rockland .	3–59	24	25	Kingston .	2–29
14	12	Middleborough,	3–57	26	26	Mattapoisett .	1–46
11	13	Hingham .	3–41	27	27	Hull . .	0–99
12	14	Hanson . .	3–40				

SUFFOLK COUNTY.

1	1	Chelsea . .	$.003-47	4	3	Winthrop .	$.001–80
2	2	Boston . .	1–89	3	4	Revere . .	1–66

WORCESTER COUNTY.

3	1	Dudley . .	$.005-02	26	22	West Boylston,	$.003-31
1	2	Upton . .	4–90	14	23	Barre . .	3–29
30	3	Grafton . .	4–56	24	24	Sterling . .	3–28
4	4	Templeton .	4–55	19	25	Gardner . .	3–27
2	5	Northbridge .	4–54	20	26	Oxford . .	3–27
8	6	Paxton . .	4–34	25	27	Westminster .	3–25
17	7	Milford . .	4–26	31	28	Southbridge .	3–24
11	8	Petersham .	4–12	37	29	Auburn . .	3–20
5	9	Rutland . .	4–09	55	30	Spencer . .	3–18
7	10	Brookfield .	3–90	36	31	Ashburnham .	3–17
10	11	No. Brookfield,	3–84	45	32	Millbury .	3–17
9	12	W. Brookfield,	3–77	33	33	Boylston .	3–03
16	13	Phillipston .	3–75	44	34	Holden . .	3–01
12	14	Uxbridge .	3–59	18–	35	Leicester .	3–00
29	15	New Braintree,	3–55	29	36	Fitchburg .	2–93
13	16	Southborough,	3–54	40	37	Hubbardston .	2–89
23	17	Clinton . .	3–51	41	38	Oakham .	2–87
6	18	Douglas . .	3–51	43	39	Sutton . .	2–87
15	19	Blackstone .	3–47	22	40	Sturbridge .	2–76
21	20	Webster . .	3–40	32	41	Charlton .	2–74
27	21	Westborough .	3–34	38	42	Lancaster .	2–74

WORCESTER COUNTY — CONCLUDED.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.	For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	TOWNS.	Percentage of Valuation appropriated to Public Schools — equivalent to mills and hundredths of mills.
56	43	Royalston .	2–74	42	51	Athol . .	$.002–56
50	44	Worcester .	2–73	52	52	Berlin . .	2–48
51	45	Northborough,	2–71	54	53	Bolton . .	2–47
34	46	Dana .	2–68	57	54	Leominster .	2–26
48	47	Shrewsbury .	2–65	53	55	Lunenburg .	2–21
47	48	Warren . .	2–63	49	56	Winchendon .	2–18
46	49	Harvard .	2–61	39	57	Hardwick .	2–16
35	50	Mendon . .	2–61	58	58	Princeton .	2–10

GRADUATED TABLES — SECOND SERIES.

Showing the different Counties in the State, numerically arranged, according to the Percentage of their Taxable Property, appropriated for the support of Public Schools, for the year 1877–78.

For 1876-77, by the State Valuation of 1876.	For 1877-78, by the State Valuation of 1877.	COUNTIES.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	Amount of money raised by taxes for the support of Public Schools.	Income of Surplus Revenue and of similar funds appropriated for Public Schools.	TOTAL.	Valuation of 1877.	Amount contributed for board and fuel.
1	1	BARNSTABLE . .	$.004–16	$61,850 00	$847 91	$62,697 91	$15,048,587 00	$104 50
3	2	Plymouth . .	3–56	133,571 87	3,568 16	137,140 03	38,500,712 00	500 00
2	3	Franklin . . .	3–51	52,897 50	1,401 77	54,299 27	15,454,811 00	1,357 00
6	4	Berkshire . .	3–29	108,721 96	2,705 63	111,427 59	33,902,775 00	1,852 70
5	5	Essex . . .	3–15	496,348 67	7,152 03	503,500 70	159,878,475 00	1,380 00
4	6	Hampshire . .	3–12	74,261 93	2,126 82	76,388 75	24,517,948 00	860 75
8	7	Worcester . .	3–05	406,328 13	5,066 05	411,394 18	134,605,405 00	345 31
9	8	Middlesex . .	2–97	800,068 56	5,998 11	806,066 67	271,269,772 00	209 50
7	9	Hampden . .	2–95	190,132 00	3,494 87	193,626 87	65,717,450 00	1,294 00
10	10	Norfolk . . .	2–80	246,885 01	4,123 11	251,008 12	89,619,757 00	107 00
11	11	Nantucket . .	2–57	6,250 00	–	6,250 00	2,431,890 00	–
12	12	Bristol . . .	2–51	265,975 00	3,808 17	269,783 17	107,678,928 00	–
14	13	Dukes . . .	1–93	6,315 00	–	6,315 00	3,263,750 00	–
13	14	Suffolk . . .	1–92	1,341,905 14	20,540 95	1,362,446 09	706,336,522 00	–

AGGREGATE FOR THE STATE.

14 Counties	$.002–55	$4,191,510 77	$60,833 58	$4,252,344 35	$1,668,226,782 00	$8,010 76

GRADUATED TABLES — SECOND SERIES.

Showing the Arrangement of Counties according to their Appropriations, including Voluntary Contributions.

If the Counties are numerically arranged, according to the percentage of their valuations appropriated for Public Schools, voluntary contributions of board and fuel being added to the sum raised by tax and to the income of the Surplus Revenue and other funds, as severally given in the previous Table, the order of precedence will be as follows : —

For 1876–77, by the State Valuation of 1876.	For 1877–78, by the State Valuation of 1877.	COUNTIES.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	1	BARNSTABLE	$.004–17
2	2	Franklin	3–60
3	3	Plymouth	3–58
6	4	Berkshire	3–34
5	5	Essex	3–16
4	6	Hampshire	3–15
8	7	Worcester	3-06
9	8	Middlesex	2–97
7	9	Hampden	2–96
10	10	Norfolk	2–80
11	11	Nantucket	2–57
12	12	Bristol	2–51
14	13	Dukes	1–93
13	14	Suffolk	1–92
Aggregate for the State			$.002–55

GRADUATED TABLES — THIRD SERIES.

The following Table exhibits the ratio of the average attendance for the year in each town to the whole number of children between 5 and 15, according to the returns.

The ratio is expressed in decimals, continued to four figures, the first two of which are separated from the last two by a point, as only the two former are essential to denote the real per cent. Yet the ratios of many towns are so nearly equal, or the difference is so small a fraction, that the first two decimals, with the appropriate mathematical sign appended, indicate no distinction. The continuation of the decimals, therefore, is simply to indicate a priority in cases where, without such continuation, the ratios would appear to be precisely similar.

In several cases the ratio of attendance exhibited in the Table is over 100 per cent. These results, supposing the registers to have been properly kept and the returns correctly made, are to be thus explained: The average attendance upon all Public Schools being compared with the whole number of children in the town between 5 and 15, the result may be over 100 per cent, because the attendance of children under 5 and over 15 may more than compensate for the absence of children between those ages. The rank of the towns standing highest in the following Table is in accordance with the returns. As the returns are often incorrect, the rank may be too high in some cases.

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GRADUATED TABLES — THIRD SERIES.

[FOR THE STATE.]

In which all the towns in the State are numerically arranged according to the AVERAGE ATTENDANCE *of their children upon the Public Schools, for the year 1877–78.*

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	TYNGSBOROUGH .	91	121	1.32-96	33	Colrain .	286	272	.95–10
2	Leverett .	117	155	1.32-47	34	Lancaster .	281	267	.95–02
3	Gill . .	116	125	1.07-75	35	E. Bridgew'r,	438	416	.94–97
4	Marshfield .	220	228	1.03-64	36	N. Andover .	513	487	.94–93
5	Nahant .	95	98	1.03-16	37	Dana . .	109	103	.94–50
6	Charlemont .	129	133	1.03-10	38	Hancock .	127	120	.94–49
7	Princeton .	174	178	1.02-30	39	Shelburne .	263	248	.94–30
8	Hull . .	46	47	1.02-17	40	Plainfield .	68	64	.94–12
9	Royalston .	200	204	1.02-00	41	Hudson .	705	662	.93–90
10	Melrose .	718	724	1.00-83	42	Deerfield .	600	560	.93–33
11	Reading .	454	457	1.00-66	43	Sunderland .	162	151	.93–21
12	Boxborough .	50	50	1.00-00	44	Walpole .	309	288	.93–20
13	Dunstable .	66	66	1.00-00	45	Kingston .	232	216	.93–10
14	Granby .	148	148	1.00-00	46	Plymouth .	1,051	977	.92–96
15	Montgomery,	49	49	1.00-00	47	Chelsea .	3,169	2,942	.92–84
16	Truro . .	170	170	1.00-00	48	Blandford .	205	190	.92–68
17	Northfield .	281	280	.99–64	49	Hubbardst'n,	252	233	.92–46
18	Heath . .	108	107	.99–04	50	Marion .	145	134	.92–41
19	Malden .	2,080	2,054	.98–75	51	Wayland .	340	314	.92-35
20	Littleton .	187	184	.98–40	52	Warwick .	128	118	.92–19
21	Milton . .	485	475	.97–94	53	Templeton .	459	423	.92–15
22	N. Braintree,	96	93	.96–88	54	Upton . .	330	304	.92–12
23	Paxton .	118	114	.96–61	55	Yarmouth .	304	280	.92–10
24	Rutland .	201	194	.96–51	56	New Salem .	133	122	.91–73
25	Shirley .	165	159	.96–36	57	Carlisle .	71	65	.91–55
26	Erving .	125	120	.96–00	58	Otis . .	183	167	.91–26
27	Warren .	467	448	.95–93	59	Ayer . .	354	323	.91–24
28	Uxbridge .	481	461	.95–84	60	Barnstable .	713	646	.90–60
29	Barre . .	329	314	.95–44	61	Fitchburg .	2,065	1,868	.90–46
30	Charlton .	327	312	.95–41	62	Greenfield .	596	539	.90–44
31	Athol . .	559	533	.95–35	63	Williamst'wn,	622	562	.90–35
32	Wenham .	148	141	.95–27	64	Seekonk .	195	176	.90–26

	TOWNS.	No. of Children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
65	So. Hadley .	579	522	.90–16
66	Westfield .	1,411	1,271	.90–07
67	Stockbridge.	352	317	.90–06
68	Winchester .	563	506	.89–88
69	Florida .	108	97	.89–81
70	Ashburnham,	344	308	.89–53
71	Townsend .	346	309	.89–31
72	Haverhill .	2,591	2,311	.89–19
73	Holbrook .	367	327	.89–10
74	Bolton . .	183	163	.89–07
75	Hawley .	137	122	.89–05
76	Merrimac .	344	306	.88–95
77	Monroe .	54	48	.88–89
78	Ashfield .	206	183	.88–83
79	Petersham .	187	166	.88–77
80	Fairhaven .	457	405	.88–62
81	Sudbury .	207	183	.88–41
82	Mattapoisett,	185	163	.88–11
83	Mendon .	227	200	.88–11
84	Swansea .	204	179	.87–74
85	Leominster .	824	722	.87–62
86	Abington .	639	559	.87–48
87	Wrentham .	414	362	.87–44
88	Hinsdale .	342	299	.87–43
89	Dennis .	601	525	.87–35
90	Cummington,	157	137	.87–26
91	Stow . .	187	163	.87–17
92	Rockland .	928	808	.87–07
93	Conway .	276	240	.86–96
94	Dalton . .	311	270	.86–82
95	Wilmington .	165	143	.86–67
96	Holland .	59	51	.86–44
97	Boylston .	154	133	.86–36
98	Provincet'wn,	872	752	.86–24
99	Shrewsbury .	276	237	.85–87
100	So. Abington,	430	369	.85–81
101	Brewster .	210	180	.85–71
102	Ipswich .	560	480	.85–71
103	Montague .	605	518	.85–62
104	Freetown .	201	172	.85–57
105	Acton . .	289	247	.85–47
106	Somerville .	4,157	3,549	.85–37
107	Berlin . .	183	156	.85–25
108	Newton .	2,881	2,454	.85–18
109	Wakefield .	1,018	866	.85–07
110	Watertown .	850	723	.85–06
111	Rowe . .	107	91	.85–05
112	Holliston .	567	482	.85–01
113	Northampt'n,	2,043	1,732	.84–78
114	Burlington .	105	89	.84–76
115	Essex . .	308	261	.84–74
116	Salisbury .	644	542	.84–16
117	Stoughton .	985	829	.84–16
118	Ashby . .	145	122	.84–14
119	Framingham,	977	822	.84–13
120	Amesbury .	677	569	.84–05
121	Wellfleet .	420	352	.83–81
122	Manchester .	257	215	.83–66
123	Alford . .	55	46	.83–64
124	Lunenburg .	177	148	.83–62
125	Taunton .	3,206	2,681	.83–62
126	Chesterfield .	128	107	.83–60
127	Medford .	1,181	986	.83–49
128	Boxford .	108	90	.83–33
129	Dartmouth .	558	464	.83–15
130	Dracut .	195	162	.83–08
131	Weston .	201	167	.83–08
132	Brookfield .	459	381	.83–01
133	Concord .	476	395	.82–98
134	Weymouth .	1,960	1,625	.82–91
135	Arlington .	823	680	.82–62
136	Westminster,	253	209	.82–61
137	Peabody .	1,439	1,188	.82–56
138	Bernardston,	170	140	.82–35
139	Wales . .	130	107	.82–31
140	Gardner .	642	528	.82–24
141	Medway .	814	669	.82–19
142	Stoneham .	909	747	.82–18
143	Danvers .	1,100	903	.82–09
144	Norwood .	416	341	.81–97
145	Woburn .	2,112	1,726	.81–72
146	Bridgewater,	723	590	.81–60
147	Belmont .	411	335	.81–51
148	Randolph .	765	623	.81–44
149	Amherst .	682	555	.81–38
150	Foxborough,	494	402	.81–38
151	Westford .	300	244	.81–33
152	Bellingham .	235	191	.81–28
153	Rehoboth .	287	233	.81–19
154	Greenwich .	85	69	.81–18
155	Eastham .	138	112	.81–16
156	Shutesbury .	111	90	.81–08
157	N. Brookfield,	764	618	.80–89
158	Norton .	240	194	.80–83
159	Southwick .	203	164	.80–79
160	Dover . .	104	84	.80–77

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
161	N. Bedford	4,208	3,394	.80–66	209	Brockton	2,140	1,647	.76–96
162	Falmouth	346	279	.80–64	210	Buckland	419	322	.76–85
163	Harvard	237	191	.80–60	211	Enfield	185	142	.76–80
164	Springfield	5,375	4,332	.80–60	212	Middleboro'	900	691	.76–78
165	Gloucester	3,843	3,097	.80–59	213	Brookline	1,329	1,020	.76–75
166	Chilmark	72	58	.80–56	214	Winthrop	133	102	.76–69
167	Oakham	149	120	.80–54	215	Halifax	77	59	.76–62
168	N. Reading	158	127	.80–38	216	Lee	850	674	.76–60
169	Longmeadow,	257	206	.80–16	217	Braintree	704	538	.76–42
170	Worthington,	136	109	.80–16	218	Clinton	1,514	1,155	.76–29
171	Dighton	321	257	.80–06	219	Lexington	472	360	.76–27
172	Phillipston	125	100	.80–00	220	Wareham	623	474	.76–08
173	Tisbury	235	188	.80–00	221	Lynn	5,799	4,409	.76–03
174	Franklin	603	482	.79–93	222	Westboro'	769	582	.75–68
175	Sterling	278	222	.79–86	223	Berkley	119	90	.75–63
176	Cambridge	8,218	6,557	.79–79	224	Webster	808	610	.75–50
177	Orange	394	314	.79–70	225	Needham	887	667	.75–20
178	Scituate	490	390	.79–59	226	Hyde Park	1,305	980	.75–09
179	Dedham	1,165	927	.79–56	227	Hardwick	416	312	.75–00
180	Andover	884	702	.79–41	228	Leicester	544	408	.75–00
181	Beverly	1,331	1,057	.79–41	229	Boston	58034	43466	.74–89
182	Belchertown,	483	383	.79–30	230	Ashland	444	332	.74–77
183	Chester	259	205	.79–15	231	Worcester	9,097	6,802	.74–77
184	Northbridge,	758	599	.79–02	232	Lenox	420	314	.74–76
185	G. Barringt'n,	895	707	.78–99	233	N. Marlboro',	436	325	.74–54
186	Saugus	474	374	.78–90	234	Sandwich	687	512	.74–53
187	Marblehead	1,491	1,172	.78–60	235	So. Scituate	336	250	.74–40
188	Easton	826	649	.78–57	236	Carver	202	150	.74–26
189	Georgetown	410	322	.78–54	237	Agawam	376	279	.74–20
190	Harwich	683	536	.78–48	238	Rockport	762	565	.74–15
191	Orleans	232	182	.78–45	239	W. Newbury,	374	277	.74–06
192	Hadley	438	343	.78–31	240	Lincoln	150	111	.74–00
193	Swampscott	380	297	.78–16	241	Northboro'	238	176	.73–95
194	Mansfield	459	358	.77–99	242	Pelham	103	76	.73–80
195	Quincy	1,829	1,426	.77–97	243	Pepperell	354	261	.73–73
196	Duxbury	376	293	.77–93	244	Easthampt'n,	869	640	.73–65
197	Grafton	783	610	.77–91	245	W. Stockb'ge,	125	90	.73–60
198	Waltham	1,955	1,523	.77–90	246	Southampt'n,	192	141	.73–44
199	Windsor	131	102	.77–86	247	Dudley	563	413	.73–36
200	Billerica	338	263	.77–81	248	Bradford	375	275	.73–33
201	W. Bridgew'r,	329	256	.77–81	249	Bedford	168	123	.73–21
202	Savoy	147	114	.77–55	250	Somerset	442	323	.73–08
203	Southboro'	359	278	.77–44	251	Oxford	498	363	.72–90
204	Hopkinton	1,090	844	.77–43	252	Canton	905	659	.72–82
205	Norfolk	172	133	.77–33	253	Blackstone	972	707	.72–74
206	Marlborough,	1,936	1,497	.77–32	254	Becket	293	213	.72–69
207	Middlefield	149	115	.77–18	255	Hanson	215	156	.72–56
208	Natick	1,672	1,290	.77–15	256	Revere	315	228	.72–38

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
257	Ludlow	231	167	.72–29	300	Auburn	256	171	.66–79
258	Peru	90	65	.72–22	301	Maynard	436	291	.66–74
259	Washington,	125	90	.72–00	302	Whately	201	134	.66–67
260	Acushnet	199	143	.71–91	303	W. Boylston,	575	383	.66–61
261	W. Spring'ld,	696	500	.71–84	304	Groveland	433	288	.66–51
262	Chelmsford	519	372	.71–68	305	Rochester	191	127	.66–49
263	Huntington	194	139	.71–65	306	Millbury	919	606	.65–94
264	Lakeville	210	150	.71–43	307	Wendell	91	60	.65–93
265	Sandisfield	227	162	.71–36	308	Sheffield	486	319	.65–64
266	Newbury	240	171	.71–25	309	W.Brookfield,	378	248	.65–61
267	Lynnfield	118	84	.71–19	310	Wilbraham	430	281	.65–35
268	Hingham	780	555	.71–15	311	Pittsfield	2,483	1,620	.65–24
269	Everett	724	515	.71–13	312	Sherborn	184	120	.65–22
270	Hatfield	301	214	.71–09	313	Monson	605	393	.64–96
271	Attleboro'	1,576	1,120	.71–06	314	Palmer	913	589	.64–51
272	Chatham	494	351	.71–05	315	Nantucket	643	414	.64–38
273	Lowell	7,540	5,357	.71–05	316	Leyden	120	77	.64–17
274	Pembroke	234	166	.70–94	317	Tyringham	106	68	.64–15
275	Cohasset	453	320	.70–64	318	Goshen	77	49	.63–64
276	Groton	390	275	.70–51	319	Brimfield	226	142	.62–83
277	Douglas	434	305	.70–28	320	Sutton	638	398	.62–38
278	Prescott	104	73	.70–19	321	Sharon	274	170	.62–04
279	New Ashford,	30	21	.70–00	322	Salem	4,460	2,766	.62–02
280	Middleton	193	135	.69–95	323	Fall River	9,047	5,597	.61–87
281	Russell	119	83	.69–75	324	Lanesboro'	320	196	.61–25
282	Winchendon,	724	504	.69–61	325	Tolland	85	52	.61–18
283	Granville	269	187	.69–52	326	Newburyp'rt,	2,511	1,532	.61–01
284	Methuen	676	466	.68–93	327	Mashpee	69	42	.60–87
285	Tewksbury	201	138	.68–66	328	Adams	2,995	1,821	.60–80
286	Holden	482	329	.68–26	329	Ware	934	567	.60–71
287	Spencer	1,190	812	.68–24	330	Southbridge,	1,397	845	.60–49
288	Westhampt'n,	132	90	.68–18	331	Topsfield	225	133	.59–11
289	Milford	2,193	1,493	.68–08	332	Williamsb'g,	469	276	.58–85
290	Hanover	340	231	.67–94	333	Monterey	150	88	.58–67
291	Raynham	345	234	.67–83	334	Plympton	164	96	.58–54
292	Westport	556	377	.67–81	335	Richmond	219	127	.57–99
293	Edgartown	362	245	.67–68	336	Rowley	217	125	.57–60
294	Hamilton	145	98	.67–58	337	Gosnold	25	14	.56–00
295	Sturbridge	416	281	.67–55	338	Gay Head	29	16	.55–17
296	Egremont	149	100	.67–11	339	Clarksburg	163	88	.53–99
297	Lawrence	6,088	4,082	.67–05	340	Chicopee	1,915	1,028	.53–68
298	Medfield	206	138	.66–99	341	Holyoke	2,523	1,301	.51–57
299	Cheshire	375	251	.66–93	342	Mt.Wash'ton,	38	16	.42–10

GRADUATED TABLES — THIRD SERIES.

[COUNTY TABLES.]

In which all the Towns in the respective Counties in the State are numerically arranged, according to the AVERAGE ATTENDANCE *of their children upon the Public Schools, for the year 1877–78.*

[For an explanation of the principles on which these Tables are constructed, see *ante*, p. cv.]

BARNSTABLE COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	TRURO . .	170	170	1.00-00	8	Eastham .	138	112	.81–16
2	Yarmouth .	304	280	.92–10	9	Falmouth .	346	279	.80–64
3	Barnstable .	713	646	.90–60	10	Harwich .	683	536	.78–48
4	Dennis . .	601	525	.87–35	11	Orleans .	232	182	.78–45
5	Provincetown,	872	752	.86–24	12	Sandwich .	687	512	.74–53
6	Brewster .	210	180	.85–71	13	Chatham .	494	351	.71–05
7	Wellfleet .	420	352	.83–81	14	Mashpee .	69	42	.60–87

BERKSHIRE COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	HANCOCK . .	127	120	.94–49	17	Peru . .	90	65	.72–22
2	Otis . .	183	167	.91–26	18	Washington .	125	90	.72–00
3	Williamst'n .	622	562	.90–35	19	Sandisfield .	227	162	.71–36
4	Stockbridge .	352	317	.90–06	20	New Ashford,	30	21	.70–00
5	Florida .	108	97	.89–81	21	Egremont .	149	100	.67–11
6	Hinsdale .	342	299	.87–43	22	Cheshire .	375	251	.66–93
7	Dalton . .	311	270	.86–82	23	Sheffield .	486	319	.65–64
8	Alford . .	55	46	.83–64	24	Pittsfield .	2,483	1,620	.65–24
9	G. Barringt'n,	895	707	.78–99	25	Tyringham .	106	68	.64–15
10	Windsor .	131	102	.77–86	26	Lanesboro' .	320	196	.61–25
11	Savoy . .	147	114	.77–55	27	Adams . .	2,995	1,821	.60–80
12	Lee . .	850	674	.76–60	28	Monterey .	150	88	.58–67
13	Lenox . .	420	314	.74–76	29	Richmond .	219	127	.57–99
14	N. Marlboro',	436	325	.74–54	30	Clarksburg .	163	88	.53–99
15	W. Stockb'ge,	125	90	.73–60	31	Mt. Washin'n,	38	16	.42–10
16	Becket . .	293	213	.72–69					

BRISTOL COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	Seekonk	195	176	.90–26	11	Easton	826	649	.78–57
2	Fairhaven	457	405	.88–62	12	Mansfield	459	358	.77–99
3	Swansea	204	179	.87–74	13	Berkley	119	90	.75–63
4	Freetown	201	172	.85–57	14	Somerset	442	323	.73–08
5	Taunton	3,206	2,681	.83–62	15	Acushnet	199	143	.71–91
6	Dartmouth	558	464	.83–15	16	Attleborough,	1,576	1,120	.71–06
7	Rehoboth	287	233	.81–19	17	Raynham	345	234	.67–83
8	Norton	240	194	.80–83	18	Westport	556	377	.67–81
9	New Bedford,	4,208	3,394	.80–66	19	Fall River	9,047	5,597	.61–87
10	Dighton	321	257	.80–06					

DUKES COUNTY.

1	CHILMARK	72	58	.80–56	4	Gosnold	25	14	.56–00
2	Tisbury	235	188	.80–00	5	Gay Head	29	16	.55–17
3	Edgartown	362	245	.67–68					

ESSEX COUNTY.

1	NAHANT	95	98	1.03-16	19	Georgetown	410	322	.78–54
2	Wenham	148	141	.95–27	20	Swampscott	380	297	.78–16
3	No. Andover,	513	487	.94–93	21	Lynn	5,799	4,409	.76–03
4	Haverhill	2,591	2,311	.89–19	22	Rockport	762	565	.74–15
5	Merrimac	344	306	.88–95	23	W. Newbury	374	277	.74–06
6	Ipswich	560	480	.85–71	24	Bradford	375	275	.73–33
7	Essex	308	261	.84–74	25	Newbury	240	171	.71–25
8	Salisbury	644	542	.84–16	26	Lynnfield	118	84	.71–19
9	Amesbury	677	569	.84–05	27	Middleton	193	135	.69–95
10	Manchester	257	215	.83–66	28	Methuen	676	466	.68–93
11	Boxford	108	90	.83–33	29	Hamilton	145	98	.67–58
12	Peabody	1,439	1,188	.82–56	30	Lawrence	6,088	4,082	.67–05
13	Danvers	1,100	903	.82–09	31	Groveland	433	288	.66–51
14	Gloucester	3,843	3,097	.80–59	32	Salem	4,460	2,766	.62–02
15	Andover	884	702	.79–41	33	Newburyport,	2,511	1,532	.61–01
16	Beverly	1,331	1,057	.79–41	34	Topsfield	225	133	.59–11
17	Saugus	474	374	.78–90	35	Rowley	217	125	.57–60
18	Marblehead	1,491	1,172	.78–60					

FRANKLIN COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	**LEVERETT** .	117	155	1.32-47	14	Hawley .	137	122	.89–05
2	Gill . .	116	125	1.07-75	15	Monroe .	54	48	.88–89
3	Charlemont .	129	133	1.03-10	16	Ashfield .	206	183	.88–83
4	Northfield .	281	280	.99–64	17	Conway .	276	240	.86–96
5	Heath . .	108	107	.99–04	18	Montague .	605	518	.85–62
6	Erving . .	125	120	.96–00	19	Rowe . .	107	91	.85–05
7	Colrain . .	286	272	.95–10	20	Bernardston .	170	140	.82–35
8	Shelburne .	263	248	.94–30	21	Shutesbury .	111	90	.81–08
9	Deerfield .	600	560	.93–33	22	Orange . .	394	314	.79–70
10	Sunderland .	162	151	.93–21	23	Buckland .	419	322	.76–85
11	Warwick .	128	118	.92–19	24	Whately .	201	134	.66–67
12	New Salem .	133	122	.91–73	25	Wendell .	91	60	.65–93
13	Greenfield .	596	539	.90–44	26	Leyden .	120	77	.64–17

HAMPDEN COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	**MONTGOMERY** .	49	49	1.00-00	12	W. Springfi'd,	696	500	.71–84
2	Blandford .	205	190	.92–68	13	Russell . .	119	83	.69–75
3	Westfield .	1,411	1,271	.90–07	14	Granville .	269	187	.69–52
4	Holland .	59	51	.86–44	15	Wilbraham .	430	281	.65–35
5	Wales . .	130	107	.82–31	16	Monson .	605	393	.64–96
6	Southwick .	203	164	.80–79	17	Palmer . .	913	589	.64–51
7	Springfield .	5,375	4,332	.80–60	18	Brimfield .	226	142	.62–83
8	Longmeadow,	257	206	.80–16	19	Tolland .	85	52	.61–18
9	Chester .	259	205	.79–15	20	Chicopee .	1,915	1,028	.53–68
10	Agawam .	376	279	.74–20	21	Holyoke .	2,523	1,301	.51–57
11	Ludlow .	231	167	.72–29					

HAMPSHIRE COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	**GRANBY** . .	148	148	1.00-00	13	Enfield . .	185	142	.76–80
2	Plainfield .	68	64	.94–12	14	Pelham .	103	76	.73–80
3	South Hadley,	579	522	.90–16	15	Easthampton,	869	640	.73–65
4	Cummington,	157	137	.87–26	16	Southampton,	192	141	.73–44
5	Northampton,	2,043	1,732	.84–78	17	Huntington .	194	139	.71–65
6	Chesterfield .	128	107	.83–60	18	Hatfield .	301	214	.71–09
7	Amherst .	682	555	.81–38	19	Prescott .	104	73	.70–19
8	Greenwich .	85	69	.81–18	20	Westhampt'n,	132	90	.68–18
9	Worthington,	136	109	.80–15	21	Goshen .	77	49	.63–64
10	Belchertown,	483	383	.79–30	22	Ware . .	934	567	.60–71
11	Hadley . .	438	343	.78–31	23	Williamsb'rg,	469	276	.58–85
12	Middlefield .	149	115	.77–18					

MIDDLESEX COUNTY.

	TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	**TYNGSBOROUGH**	91	121	1.32-96	28	Dracut	195	162	.83-08
2	Melrose	718	724	1.00-83	29	Weston	201	167	.83-08
3	Reading	454	457	1.00-66	30	Concord	476	395	.82–98
4	Foxborough	50	50	1.00-00	31	Arlington	823	680	.82–62
5	Dunstable	66	66	1.00-00	32	Stoneham	909	747	.82–18
6	Malden	2,080	2,054	.98-75	33	Woburn	2,112	1,726	.81–72
7	Littleton	187	184	.98-40	34	Belmont	411	335	.81–51
8	Shirley	165	159	.96-36	35	Westford	300	244	.81–33
9	Hudson	705	662	.93-90	36	No. Reading	158	127	.80–38
10	Wayland	340	314	.92-35	37	Cambridge	8,218	6,557	.79–79
11	Carlisle	71	65	.91-55	38	Waltham	1,955	1,523	.77–90
12	Ayer	354	323	.91-24	39	Billerica	338	263	.77–81
13	Winchester	563	506	.89-88	40	Hopkinton	1,090	844	.77–43
14	Townsend	346	309	.89-31	41	Marlborough,	1,936	1,497	.77–32
15	Sudbury	207	183	.88–41	42	Natick	1,672	1,290	.77–15
16	Stow	187	163	.87–17	43	Lexington	472	360	.76–27
17	Wilmington	165	143	.86–67	44	Ashland	444	332	.74–77
18	Acton	289	247	.85–47	45	Lincoln	150	111	.74–00
19	Somerville	4,157	3,549	.85–37	46	Pepperell	354	261	.73–73
20	Newton	2,881	2,454	.85–18	47	Bedford	168	123	.73–21
21	Wakefield	1,018	866	.85–07	48	Chelmsford	519	372	.71–68
22	Watertown	850	723	.85–06	49	Everett	724	515	.71–13
23	Holliston	567	482	.85–01	50	Lowell	7,540	5,357	.71–05
24	Burlington	105	89	.84–76	51	Groton	390	275	.70–51
25	Ashby	145	122	.84–14	52	Tewksbury	201	138	.68–66
26	Framingham,	977	822	.84–13	53	Maynard	436	291	.66–74
27	Medford	1,181	986	.83–49	54	Sherborn	184	120	.65–22

NANTUCKET COUNTY.

NANTUCKET	643	414	.64–38

NORFOLK COUNTY.

1	**MILTON**	485	475	.97–94	7	Medway	814	669	.82–19
2	Walpole	309	288	.93–20	8	Norwood	416	341	.81–97
3	Holbrook	367	327	.89–10	9	Randolph	765	623	.81–44
4	Wrentham	414	362	.87–44	10	Foxborough	494	402	.81–38
5	Stoughton	985	829	.84–16	11	Bellingham	235	191	.81–28
6	Weymouth	1,960	1,625	.82–91	12	Dover	104	84	.80–77

NORFOLK COUNTY — CONCLUDED.

	TOWNS.	No. of Children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of Children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
13	Franklin	603	482	.79–93	19	Needham	887	667	.75–20
14	Dedham	1,165	927	.79–56	20	Hyde Park	1,305	980	.75–09
15	Quincy	1,829	1,426	.77–97	21	Canton	905	659	.72–82
16	Norfolk	172	133	.77–33	22	Cohasset	453	320	.70–64
17	Brookline	1,329	1,020	.76–75	23	Medfield	206	138	.66–99
18	Braintree	704	538	.76–42	24	Sharon	274	170	.62–04

PLYMOUTH COUNTY.

1	**MARSHFIELD**	220	228	1.03-64	15	Brockton	2,140	1,647	.76–96
2	Hull	46	47	1.02-17	16	Middleboro'	900	691	.76–78
3	E.Bridgew'r.	438	416	.94–97	17	Halifax	77	59	.76–62
4	Kingston	232	216	.93–10	18	Wareham	623	474	.76–08
5	Plymouth	1,051	977	.92–96	19	So. Scituate	336	250	.74–40
6	Marion	145	134	.92–41	20	Carver	202	150	.74–26
7	Mattapoisett,	185	163	.88–11	21	Hanson	215	156	.72–56
8	Abington	639	559	.87–48	22	Lakeville	210	150	.71–43
9	Rockland	928	808	.87–07	23	Hingham	780	555	.71–15
10	S. Abington	430	369	.85–81	24	Pembroke	234	166	.70–94
11	Bridgewater	723	590	.81–60	25	Hanover	340	231	.67–94
12	Scituate	490	390	.79–59	26	Rochester	191	127	.66–49
13	Duxbury	376	293	.77–93	27	Plympton	164	96	.58–54
14	W.Bridgew'r,	329	256	.77–81					

SUFFOLK COUNTY.

1	**CHELSEA**	3,169	2,942	.92–84	3	Boston	58034	43466	.74–89
2	Winthrop	133	102	.76–69	4	Revere	315	228	.72–38

WORCESTER COUNTY.

1	**PRINCETON**	174	178	1.02-30	9	Charlton	327	312	.95–41
2	Royalston	200	204	1.02-00	10	Athol	559	533	.95–35
3	N. Braintree.	96	93	.96–88	11	Lancaster	281	267	.95–02
4	Paxton	118	114	.96–61	12	Dana	109	103	.94–50
5	Rutland	201	194	.96–51	13	Hubbardston,	252	233	.92–46
6	Warren	467	448	.95–93	14	Templeton	459	423	.92–15
7	Uxbridge	481	461	.95–84	15	Upton	330	304	.92–12
8	Barre	329	314	.95–44	16	Fitchburg	2,065	1,868	.90–46

WORCESTER COUNTY — CONCLUDED.

	TOWNS.	No. of Children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS.	No. of Children between 5 and 15 years of age in each town.	Average attendance upon School.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
17	Ashburnham,	344	308	.89–53	38	Westboro' .	769	582	.75–68
18	Bolton . .	183	163	.39–07	39	Webster .	808	610	.75–50
19	Petersham .	187	166	.88–77	40	Hardwick .	416	312	.75–00
20	Mendon .	227	200	.88–11	41	Leicester .	544	408	.75–00
21	Leominster .	824	722	.87–62	42	Worcester .	9,097	6,802	.74–77
22	Boylston .	154	133	.86–36	43	Northboro' .	238	176	.73–95
23	Shrewsbury .	276	237	.85–87	44	Dudley . .	563	413	.73–36
24	Berlin . .	183	156	.85–25	45	Oxford . .	498	363	.72–90
25	Lunenburg .	177	148	.83–62	46	Blackstone .	972	707	.72–74
26	Brookfield .	459	381	.83–01	47	Douglas .	434	305	.70–28
27	Westminster,	253	209	.82–61	48	Winchendon.	724	504	.69–61
28	Gardner .	642	528	.82–24	49	Holden .	482	329	.68–26
29	N. Brookfield,	764	618	.80–89	50	Spencer .	1,190	812	.68–24
30	Harvard .	237	191	.80–60	51	Milford .	2,193	1,493	.68–08
31	Oakham .	149	120	.80–54	52	Sturbridge .	416	281	.67–55
32	Phillipston .	125	100	.80–00	53	Auburn .	256	171	.66–79
33	Sterling .	278	222	.79–86	54	W. Boylston .	575	383	.66–61
34	Northbridge .	758	599	.79–02	55	Millbury .	919	606	.65–94
35	Grafton .	783	610	.77–91	56	W. Brookfield,	378	248	.65–61
36	Southboro' .	359	278	.77–44	57	Sutton . .	638	398	.62–38
37	Clinton .	1,514	1,155	.76–29	58	Southbridge .	1,397	845	.60–49

TABLE in which all the Counties are numerically arranged, according to the AVERAGE ATTENDANCE *of their children upon the Public Schools for the year 1877–78.*

1876-77.	1877-78.	COUNTIES.	Ratio of Attendance.
2	1	FRANKLIN	.88–78
1	2	Barnstable	.82–83
3	3	Middlesex	.81–12
6	4	Plymouth	.80–65
5	5	Norfolk	.79–60
7	6	Worcester	.77–37
8	7	Hampshire	.77–30
9	8	Suffolk	.75–82
10	9	Essex	.74–65
11	10	Bristol	.72–70
4	11	Dukes	.72–06
12	12	Berkshire	.70–92
13	13	Hampden	.70–87
14	14	Nantucket	.64–39

AVERAGE ATTENDANCE FOR THE STATE.

Number of children between 5 and 15 years of age in the State	297,202
Average attendance	228,447
Ratio of attendance to the whole number between 5 and 15 years of age, expressed in decimals	.76–87

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